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ABSTRACT

Too often the phrase "school-to-work transition" is interpreted to mean that all young people should follow the same path directly from the classroom to the workplace. The Academy of Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a 4-year study of school-to-work transition education reform. The study focused on identifying useful school-to-work transition reform initiatives. A number of activities carried out the study: a comprehensive review and synthesis of the literature; the commissioning of a series of papers on critical issues; the convening of a national conference; 14 case studies of exemplary school-to-work transition initiatives; and the dissemination of diverse products to the research, policy, and education communities. This volume, the second of four in a series, presents information from the 14 high school programs across the United States that linked education to work. The case studies illustrate a variety of school-to-work reform initiatives, including school-based and work-based programs, district- and community-wide efforts, and county-wide and state-level strategies. Case-study data were collected during site visits to each of the 14 programs in 1993 or 1994. Data were obtained through individual interviews, focus groups, observation, and document analysis. (LMI)

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STUDY OF SCHOOL-TO-WORK
REFORM INITIATIVES

FINAL TECHNICAL RESEARCH REPORT

VOLUME II

CASE STUDIES

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WASHINGTON, DC 20009

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AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

MT. EDGECUMBE HIGH SCHOOL

CASE STUDY REPORT

Prepared by:

Susan Hubbard and Scott Menzel
National Institute for Work and Learning
Academy for Educational Development

July 1995

1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Sitka, Alaska from April 2-8, 1994, to study the reforms of Mt. Edgecumbe High School. We were particularly interested in observing how Mt. Edgecumbe's overall reform efforts emphasizing Total Quality Management and entrepreneurial skills benefitted students' transition from school to work.

ACKNOWLEDGEMENTS

This report would not have been possible without the help of Todd Bergman, Mt. Edgecumbe's quality coordinator. Over the past several years, Mt. Edgecumbe has endured a great many visits from organizations and individuals interested in their reforms. We sincerely appreciate the fact that Todd was willing to make the arrangements necessary to fit yet another team of interested observers into the MEHS schedule.

We also owe a great debt of thanks to Bill Denkinger, Mt. Edgecumbe's academic principal. Bill spent countless hours of his time off giving us a sense of the history of MEHS's reforms and explaining to us the big picture of MEHS's administrative structure and the environment in which it operates. In addition, Carole Denkinger, Bill's wife, gave generously of her time in helping us understand the history and culture of Sitka and went far out of her way in making us feel welcome in the community.

Thanks to Tom Brown, acting superintendent for MEHS, for fitting us into his busy schedule and explaining to us the unique status of MEHS in the state's educational system. We also appreciated the willingness of Elaine Sunde, director of the Sitka campus of the University of Alaska Southeast, and Randy Hewlitt, lead coordinator for the Sitka Cooperative, to see us on very short notice and share with us their perspective on MEHS's partnership with other educational institutions. Rick Rocheleau, manager at Alaskan Harvest, was another person whose generosity we appreciated, both for meeting with us on short notice and for sharing his insights into business partnerships with MEHS.

We would also like to thank the many instructors who graciously allowed us to observe their classes. Kathleen McCrossin, English teacher, not only welcomed us into her

classroom, but also shared with us her own perspective on reforms in MEHS and resultant effects on student preparation for learning and work. Michelle Winger, video productions teacher, and Don Surgeon, geography teacher, cheerfully allowed us into their classes. We are extremely grateful to counselor Sharon Couch for spending a large block of her time sharing insights on the many ways in which the counseling process supports students at MEHS.

Certainly no expression of thanks would be complete without acknowledging the many students who showed us what it means to operate within a total quality framework. Thanks to all of the students who allowed us to sit in on their classes, hear their presentations, and look at their portfolios. Our special thanks to Eric, Nichole, Andy, Toni, Rick, Marie, Luddell, Travis, Kevin, Brenda, Peggy, Robin, Andrea, and Katherine. In addition, we were delighted to have the opportunity to watch several teams of Native Alaskan dancers perform at an MEHS assembly--thanks to all the students who participated.

Finally, we would also like to extend our thanks to fellow visitors John Marsh of Total Quality Partnerships and Sue Harrison, Head of Quality Development at the Leicestershire County Council Education Department, for giving us insight into the effects of quality on learning in the U.K.

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INTRODUCTION

Mt. Edgecumbe High School (MEHS) in Sitka, Alaska, is engaged in reforms with a dual purpose: to engage the stakeholders who make up the school in a continuous cycle of evaluation and improvement of systems; and to equip students with the skills and habits necessary to engage in lifelong learning and to thrive in a productive career. The framework for the reforms is total quality management (TQM), a business theory that focuses on continuously improving systems in order to satisfy the customer, and on maximizing the value and potential of each worker.

Thus administrators and others shaping the improvement process did not focus on any single outcome--school-to-work transition, use of technology, curricular reform, preparation for postsecondary learning, etc.--as the organizing force behind their reforms. Instead, they focused on engaging in a productive, inclusive reform process which resulted in an administrative system and school- and work-based learning which together affected all of the outcomes.

Our primary interest in visiting MEHS was to observe the effects of their reforms from one angle: how learning at MEHS supports successful transition for its students from school to work. This site report is broken down into six main sections: the first provides the context, both socioeconomic and institutional, in which MEHS is operating. The next three sections profile the administrative systems that support transition, the learning that occurs in schools, and work-based learning. The fifth section considers the impact of these activities on students, and the final section analyzes issues of success and replication.

CONTEXT

Approximately 8,500 people live in Sitka, the only city on Baranof Island, in Alaska's southeast panhandle. Historically, Sitka's economy has been based on primary resource extraction. In the past few decades, those resources have primarily been in the form of fish (halibut, salmon, crab, and shrimp) and timber. With the loss of the Alaska Pulp Corporation, one of Sitka's biggest employers, to Japan in 1993, the fishing industry, tourism, and government services now account for most of Sitka's jobs. In addition, entrepreneurship is playing an increasingly large role in Sitka and throughout Alaska. Small industries, often family-run, take advantage of technology and fill gaps in services.

Mt. Edgecumbe High School (MEHS) concentrates on helping its students develop the entrepreneurial and work readiness skills necessary to thrive in this kind of economy. MEHS is on Japonski Island, connected by bridge to Baranof Island. From 1947-83, the school was operated by the Bureau of Indian Affairs. MEHS was closed in 1983 when federal legislation required that all Native Alaskan villages must have access to secondary education, but reopened by the State of Alaska in 1985 when residents from around the state insisted on the option of a residential high school.

MEHS is the only public boarding school in a state with 55 districts and several hundred schools. The school is open to all high school students in the state, but is primarily for Alaska's rural students, and selection criteria include an assessment of what education services are available to the student in their own community. MEHS is treated as a combination of a division of Alaska's department of education, a school district, and a school. MEHS does not have a local board of education; instead, it answers to the State Board of Education (appointed by the governor) and the Commissioner of Education.

This status yields some unique challenges for the administration of MEHS, particularly in the area of funding. The two primary sources of funding for MEHS include basic foundation funds (based on a head count of students multiplied by a state-determined cost of living allowance) to pay for instruction, and domiciliary funds appropriated directly from the legislature to pay for the dorms. MEHS is required to spend all of its unencumbered funds (i.e. those not attached to tangible projects like building repair) each year, or they must hand back any remaining funds to the state. Staffing is another area affected by MEHS's unique status. MEHS can hire teachers like a regular school district, but it takes an act of legislature to increase the number of teachers.

MEHS currently has about 18 full-time staff members. They have kept student enrollment to about 300 in a conscious attempt to maximize the quality of services. Approximately 80% of the students are from ethnic minority groups, including Eskimo, Aleut, Caucasian, Tlingit, Athapaskan, African-American, and American Indian. Most students (about 85%) are from rural villages of under 200 people. Many of the students are also at or below the poverty line--one counselor cited the statistic that "30% of the kids come from homes with no indoor plumbing."

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

When MEHS reopened in 1985, Alaska was facing extremely competitive economic conditions. Concern about preparing students to engage in active and continuous learning and productive careers led administrators to engage in a series of reforms in curriculum, education systems, and work experiences. In 1986, teachers, administrators, and the State Board of Education began developing a curriculum based on technology, reality-based entrepreneurship, and core subjects defined as English, math, science, social studies, computers, Asian languages, and physical education.

Due to the innovations of an MEHS instructor and the active support of the school's superintendent and principal, these reforms soon found a framework in the philosophy of Total Quality Management (TQM). The changes were not intended as "school-to-work transition" per se; rather, the aim was to develop a continuously improving systemic reform based on stakeholder input and resulting in the best quality education possible for students. The change process was buttressed by a strong commitment to staff development, and extended to support collaborative efforts with other educational institutions.

QUALITY

> *"Quality in education is what makes learning a pleasure and a joy....It requires a quality experience to create an independent learner."*
> Dr. Myron Tribus, TQM expert involved with MEHS

In 1987, a computer teacher from MEHS attended a workshop on Total Quality Management (TQM), the systems-change concept developed by statistician W. Edwards Deming which focuses on the involvement of stakeholders, continuous analysis and improvement, and the development of a positive organizational culture. The teacher returned and implemented TQM principles in his classroom. His students' first project was to utilize random sampling and statistical analysis to determine barriers to their study time. Both the process and outcome were positive as students became excited about the principles of TQM and their productivity increased as they eliminated barriers to studying.

In early 1988, Mt. Edgecumbe's superintendent, principal, and technology/business teacher attended a TQM workshop led by Deming, and returned to present six two-hour TQM training sessions to the teaching staff. In addition, students from the computer class made presentations both within and outside of MEHS on the benefits of a "quality" approach. Students and staff alike were interested, and the teaching staff was unanimous in their support of reforming the school based on TQM principles. By the fall of 1988, the school schedule was altered so that all students were being trained in TQM in biweekly 1.5 hour sessions, and the superintendent and technology/business teacher began training teachers and administrators.

At this point, TQM had been internalized by many students and staff, and MEHS was beginning to experience changes. The superintendent, principal, and technology/business teacher were the key change agents, and had a shared vision of what quality principles could help them accomplish in their school. In addition, other teachers and students played increasingly substantial roles in helping to shape the reforms. Partnerships with businesses reflected the new emphasis on quality principles, both in the initial administrative level and in students' at-work attitudes and practices. The administration moved increasingly to flatten the management structure and encourage participation and ownership among instructors. More and more teachers began developing competencies and assessing student achievement through portfolios. The level of commitment became so strong that administrators (with full support from students and teachers) changed the very structure of the school day from seven classes per day to four 90-minute classes to allow more time for projects and in-depth learning.

The change process was not, of course, without its challenges. Asking instructors to change how and what they teach; requiring administrators to give up some of their control and create systems to support staff and student involvement; and expecting everyone to broaden their concept of the purpose of education and who their customers are--all of these entail long-term changes in attitude and operations. Some teachers resisted the concept of project-based learning and new methods of assessment; administrators ran into problems with state mandates; and some students thought the TQM trainings were a waste of their time. But none of these difficulties stopped the reform process. The motivation to make the necessary changes in MEHS came about due to the leadership of the superintendent, who gave his staff the freedom to experiment; and to the feelings of ownership of the people involved, who were given the authority to make genuine decisions.

The formal sign of TQM's acceptance came in 1991, when the State Board of Education adopted a Constancy of Purpose statement developed by students, MEHS staff, and state staff. The MEHS community had also developed a modified version of Deming's 14 Points--in their case, 14 Points for Quality in Education (see Appendix A). Students and staff continue to undergo training and have presented numerous workshops in other school districts, at national and international Quality conferences, to quality-run businesses, and to education and business associations.

STAFF DEVELOPMENT

> *"Staff development is essential because it keeps us in unison regarding what we're about."*
> administrator

Because stakeholder involvement is a key component of TQM, it is not surprising to find that MEHS places a high value on staff development. A common thread throughout staff development efforts at MEHS is the development of a high degree of ownership by the people involved. This translates into a great deal of flexibility and control for the teachers: they are allowed to make significant decisions based on their own judgement, such as how to budget for their programs and how to integrate competencies into their classes.

The subject of in-service staff training at MEHS ranges from continuous training in TQM principles to training in related areas of process and subject-matter reform. Staff time is freed up by the revised schedules so that they can participate with students in bimonthly quality training activities. One recent example of staff development was in-service peer-trainings to help teachers develop competency-based courses. The philosophy of MEHS administrators is to use the expertise of the staff first, and they put money aside to send teachers to summer trainings or national conferences (i.e. an outcomes-based education conference). Upon their return, these teachers provide training for other staff, who also incorporate it into classes.

COLLABORATION WITH OTHER EDUCATION INSTITUTIONS

The concept of working with all the stakeholders to develop a system that will best serve its students also led MEHS to reach out to other education institutions. MEHS has historically worked with the three other secondary and postsecondary education institutions in the area, and is working to hone those connections; in addition, future plans call for the development of a formalized cooperative school to provide career training programs for secondary and post-secondary students.

Current articulation with educational institutions

In order to offer a specialized curriculum, capitalize on learning opportunities offered by other schools, and maximize educational resources in the community, MEHS established working relationships with the neighboring high school (Sitka High School) and the two area postsecondary institutions (the University of Alaska Southeast and Sheldon Jackson College).

Any student from MEHS can access courses offered solely at Sitka High School, and vice versa. Because each school has certain specialties which the other does not offer, this ensures that virtually any area of student interest can be covered by one of the schools. For example, a student from Sitka might wish to take an MEHS class in Asian languages or an advanced computer course. A student from MEHS who wants to participate in diving, calculus, home economics, or music would do so at Sitka High School.

Administrative difficulties such as scheduling and transportation logistics have been worked out. There are still some attitudinal problems, however, due to the fact that MEHS and Sitka High School are not operating from the same framework: as one MEHS student put it, "they're not coming from quality like we are."

MEHS students are also able to access postsecondary-level courses at both Sheldon Jackson College and the University of Alaska Southeast. Students get dual credit (high school and college) for some classes. Both institutions are close to MEHS; the University is in fact adjacent to the MEHS campus. And both schools have been responsive in adapting to the needs of MEHS; for example, by changing their own postsecondary career certifications to meet high school diploma requirements. The schools are willing to change because they feel MEHS offers something to them--one postsecondary administrator noted that "The Mt. Edgecumbe advantage is that they have generic attitudinal foundations, not specific occupational skills which will be addressed in postsecondary training."

Sheldon Jackson College is the oldest operating educational facility in Alaska, and has a history of responding to the changing educational needs of the community. It went through various stages ranging from an industrial training school, an elementary school, a boarding high school (1917), a college program as an extension of the high school curriculum (1944), an accredited college with only one Baccalaureate program (1966), and a community college. It is currently building on its community college courses, and is also recognized as a 4-year college in a growing number of disciplines, including elementary and secondary education, business, and resource management. Sheldon Jackson is a logical path for students, as they are aligning curricula with MEHS and the administrators of both schools have operated according to the same philosophy of sharing resources and expertise.

MEHS also contracts out about 5% of its classes to the University of Alaska Southeast. All students are dual-enrolled, and a growing number of students are taking advantage of the opportunity to experience classes on a university campus. MEHS students can take various courses, including Russian, IBM computer courses, video production, physics, and art.

For example, in a university video production class, MEHS students (mostly sophomores and juniors) worked with university students to learn about the process and mechanics of producing videos. Their task was then to implement the principles they were learning by creating an MEHS student video yearbook. Students had to film 10 seconds on each MEHS student for a total tape time of 2 hours. Each video student was responsible for 6-7 shots of students, which were then edited cooperatively by groups of 3 students. The university uses a regular grading system, not competencies, but students get credit at MEHS.

Future plans for a cooperative school

> *"The need is there and the pieces are there, and we're about to start pulling it all together."*
> postsecondary administrator

MEHS and its partnering educational institutions are also working to take their alliance to a new level. MEHS, the University of Alaska Southeast, Sheldon Jackson College, and Sitka High School are in the process of creating the Sitka Cooperative School, which will provide previously unavailable professional and vocational training programs for secondary and postsecondary students. They will emphasize multiple paths by carefully articulating programs so that students can be certified for a career directly out of high school or continue to receive postsecondary training. In addition, the partners emphasize individualized career counseling for all students.

In deciding what kinds of programs to offer, the partners have been considering the current and future employment outlook statewide, what program needs are currently unmet, and what local resources are available. The four main partners are working with other education and training institutions such as the Sitka Tribal Association, the Alaska Marine Safety Education Association, the Southeast Regional Health Corporation, the Alaska Public Safety Academy, and the Southeast Regional Emergency Medical Services. In addition, business and community leaders are consulted for their feedback on training needs. Current plans call for the establishment of programs in Health Careers, Child Development, Rural Sanitation, Law Enforcement, and Marine Repairs. Other possibilities include a Natural Resources Institute and programs focusing on Fisheries, Information Technology, Entrepreneurship, and the Visitor Industry. Efforts will also continue to further link existing programs within each of the four schools.

Each program will have an advisory board comprised of between 15-30 business people, teachers, and students. They will have fairly conventional advisory board roles, including providing feedback on curriculum, identifying placement and service-learning opportunities, and suggesting additional partners. Employers see very clear benefits, including a larger pool of better-qualified employees.

Programs will be linked together and strengthened by technology. The cooperative will build on the University's strengths in distance learning technologies, which one postsecondary administrator pointed out is especially important in the Native Alaskan culture, which relies on visual cues. The efficiency and reliability of their technological links will be greatly enhanced by their anticipated link into a fiber optic network. This development will allow connections to remote villages as well as video links from building to building.

Resources such as funding and classrooms are shared between the four main partners. For example, the University is designing additional rooms where they will hold science classes primarily for high school students during the day and for postsecondary students at night.

They are funding this endeavor through internal sources (i.e. money from land sales) and receive some funding from the legislature. The lead coordinator for the cooperative works half-time at Sitka High School and has release-time to work on the cooperative for the other half.

PROFILE: LEARNING IN SCHOOLS

MEHS's system of education equips students with the tools to engage in lifelong learning and build productive careers and fulfilling lives. Administrators and teachers have restructured the curriculum to build more links between work and learning, and have restructured MEHS systems to support these goals.

CURRICULUM

The MEHS curriculum is an innovative one which, while grounded in core academics, goes beyond the basics to help prepare students for competitive local and global economic conditions. Students learn Total Quality Management (TQM) skills, entrepreneurial skills, and work readiness skills. In addition, the curriculum emphasizes the use of technology and is infused with Pacific Rim studies to familiarize students with larger economic conditions.

Core academics

> *"I came to Mt. Edgecumbe because it is more challenging than my home school."*
> student

MEHS students base their education on a solid core of academics including English, social studies, science, and math. Classes are also offered in Russian and Asian languages and computer science. MEHS collaborates with neighboring education institutions to offer extra-curricular activities such as fine arts, vocational classes, and sports, for which students receive elective or extracurricular credit.

However, classes are structured so that learning in various "subjects" takes place in each class, and students and administrators alike hope they may one day shift to half-day interdisciplinary classes. Each of the classes strive not only to integrate with other subjects, but to provide hands-on learning experiences. For example, students taking an applied math class have worked on a project which entailed their building a boat to help them learn about angles, measurements, and conversion.

Total Quality Management

> *"Quality has really helped me learn to motivate myself. It helps me focus."*
> student

The heart of MEHS reforms have come about through Total Quality Management and the Continuous Improvement Process (CIP). Within the school, these processes are utilized not only as a philosophical framework for reform, but as operational methods to increase students' problem-solving abilities, leadership capabilities, and sense of responsibility and ownership.

Students and staff began implementing quality techniques in the 1988/89 school year. Quality control techniques were infused across the curriculum, thus helping students develop quality skills which affect how they work and think. Students learn to analyze, describe, and find solutions for problems, and assess themselves and their activities according to statistical methods. Appendix B provides an example of a survey carried out by a business class.

Students meet bi-weekly to learn about quality and to develop and carry out improvement projects. Student quality facilitators--who have received advanced training and now lead others--get out of class 20 minutes early and meet at lunch on Tuesdays to plan warmups and ice-breakers, and hold breakouts on Wednesdays. The English teacher is their advisor, and they have some resources (such as tapes on quality) available to them.

There have been approximately 25 improvement teams, which meet Friday afternoons. At the time of the site visit, there were four groups, comprised primarily of teachers, working on issues such as schedule and dorm improvement. Half the staff was working on arrangements for a national conference focusing on quality in education and learning, which they planned to host at MEHS in April of 1995. One topic which receives continuous attention is the difference in the application of quality to dorm-based matters, as opposed to school-based matters. Due to differences in funding streams, mandates, and issues involved (i.e. students' personal safety as opposed to performance in school), it has been very difficult for MEHS to integrate TQM principles into daily dorm life.

Entrepreneurial skills

> *"Yeah, class is useful. See, I made this brochure [in Geography class] that we can use in my dad's business back home."*
> student

To help students adapt to rigorous local and global economic conditions, entrepreneurial skills are infused throughout the curriculum. Students learn how to develop new products, identify customer needs, assess risks and benefits, develop business plans, and research the availability of funding such as rural development grants. For example, a student might learn to make a persuasive presentation in English, work in math to calculate the value of a business investment in yen, and determine which foreign markets are ready for a product in social studies.

Business classes (Management or Research and Development) hone entrepreneurial skills and help draw together the lessons reinforced in other classes. Students have generated entrepreneurial projects each year, ranging from ideas for improvements which they implement in their home villages to filling a business niche by creating a processing plant for salmon. Appendix C shows a graphic representation of the relationship between classes in the course of one entrepreneurial venture for Alaskan Harvest. Students can come in at all levels (1st-3rd year), and learn to utilize sophisticated technology such as multimedia presentations. More than any one skill, the instructor points out that business class is "about leadership in the school."

Work readiness

> *"(English teacher) doesn't ask you to do it for her, only for yourself."*
> student

Also infused across the curriculum and in the philosophy of the school is the concept that students will acquire the work readiness skills they need to succeed in the workplace. Students are consistently reinforced in their efforts to be self-empowered and motivated, to take responsibility for their learning and actions, to work cooperatively in teams, and to appreciate the necessity of lifelong learning.

The nature of TQM makes it impossible for students to remain in a traditional "teacher-student" relationship. Students are empowered to break out of the passive learning mode and take responsibility for their learning; in some cases, even determining what areas they will focus on within the class outline. In addition to individual qualities, students are also prepared for employment by learning to work together. Because much of their school work is project-based, they learn the issues, methods, and skills of working cooperatively.

Individual teachers work with their classes to help students develop maturity and work readiness skills. For example, the English teacher helps each of her classes develop a code of cooperation they abide by, and she has seven characteristics which she expects each of them to develop (i.e. becoming a productive member of society, listening behavior, team players, problem solving, researching, work ethic, develop maturity).

Students are continuously encouraged to learn, work, and live in a manner consistent with TQM principles through notices on the walls reminding students of themes such as RICE (Responsibility, Identity, Commitment, Empowerment) and methods of analysis such as PDSA (Plan, Do, See, Action).

Technology

> *"Our emphasis on technology...reflects a reality versus a choice."*
> MEHS administrator

Proficient use of technology is a common theme at MEHS. The roots of this lie in the geography of Alaska which necessitates the use of sophisticated technology in order to communicate with remote regions. Thus MEHS administrators view the use of technology as a regional reality as well as an increasingly essential economic necessity. With approximately 200 computers (including 12 portables), MEHS is nearing a 1:1 ratio of computers to students. Ideally, administrators would like to have a 2:1 ratio, with one portable and one stationary computer for each student.

Students utilize computers in their classrooms and dorms. For instance, students utilize sophisticated desktop publishing programs in Geography to create brochures; in

English to develop a book of essays; in Business Management to craft a multimedia presentation; in Biology to look up the physiology of a fish; and in the dorms to send e-mail to friends and completed assignments to teachers.

In connecting with other regions, MEHS is currently dependent on satellites and the telephone system. This system, while serviceable, is slow and inconsistent due to problems such as sunspot interference. However, MEHS will soon be tapping into a fiber optic network through a cooperative effort with the city and other educational institutions. Ultimately, it will provide them with speed, quality, and capabilities such as teleconferencing.

Pacific Rim studies

The majority of Alaskans sustain themselves in resources-based businesses such as fishing or mining. Approximately 90% of this trade is with Pacific Rim nations, and 90% of that is with Japan.

Thus MEHS, realizing the importance of capitalizing on this potential, developed a curriculum in which Pacific studies plays a large role. Offered as an individual class as well as being infused across the curriculum, Pacific Studies plays a central role in students' learning. Pacific Rim studies include lessons on the geography, cultures, languages, and economics of the Pacific Rim nations.

SYSTEM

MEHS has created a system that supports this learning environment wherein students attain competencies, are assessed through portfolios, and access the MEHS guidance and counseling system.

Competencies

> *"Developing competencies for my classes was very difficult--but the philosophy of CIP helped, because everything you do matters, and you're encouraged to learn from mistakes."*
>
> teacher

At the time of AED/NIWL's site visit, approximately half of MEHS teachers were involved in competency-based courses. Some staff assess their classes partly through competencies and partly through grades. MEHS is rapidly moving toward the goal of having most or all courses based on competencies; however they allow for leeway so that students can adjust to this new method upon their arrival at MEHS. Students may have all graded classes at first, but by the time they're seniors, they may have only one graded class. In addition, students can always get their competencies translated into a grade if they request it (i.e. for a transcript).

Competencies are developed by teachers working with students, and are revised bi-annually. Individual teachers use different methods to develop competencies for their classes: some attend conferences or trainings, some research methods on their own, and some attend in-house training sessions. The overarching strategy, however, has been to start with Alaska competencies and state board outcomes, then incorporate SCANS, and finally ensure that quality outcomes are included.

For example, the English teacher at MEHS worked through a long and arduous process to develop competencies for her classes. She researched issues, looked at vocational education, and saw the SCANS information. Since it "meshed" with her ideas, she felt that was a "license to go crazy." She experimented with competencies, feeling that "if the current way isn't working--how can you live with that?" The philosophy of CIP helped her work through the development phase, and the final result is that now all of her classes are competency-based.

Not every teacher immediately bought into the concept of competency-based courses. A common initial reaction was skepticism about the value of such a system, unwillingness to take the time to develop their own course competencies, and mistrust that this would turn out to be just another fad or temporary effort.

Assessment

MEHS students have Personal Portfolios, and are assessed by the extent to which they can demonstrate that they have attained predetermined competencies. Teachers use Bloom's Taxonomy for Students to set the learning levels on their competency matrix: thus student learning progresses through knowledge (remembering), comprehension (understanding), application (solving the problem), analysis (logical ordering), synthesis (creating), and evaluation/appreciation (valuing).

One teacher points out that this method of evaluation and assessment makes her more accountable "because the documentation is there." Students have portfolios with assessments, handouts/notes, and work in progress. Students always know where they stand in a class by checking their competency rating. The competency rating sheet for each class lists the broad learning outcome, competency category and competencies, and the degree to which the student has mastered the competency (see Appendix D).

Students perform self-assessment by measuring what learning level they believe they have attained. The teacher then discusses the self-assessment, makes any changes she feels are necessary, and registers it to send to parents and for school records.

Guidance and counseling

MEHS administrators cite counseling as a core support for their students. Guidance and counseling at MEHS covers personal, academic, and career awareness activities. Counselors cite the majority of their time as being spent on personal and academic counseling, and less in career counseling.

There are two counselors in MEHS's budget and one state-sponsored counselor who works primarily on personal issues. With offices in the student dorms, counselors are easily accessible. Counselors trade off evening shifts so that there is at least one counselor on duty every night until at least 10:00 p.m. (after which security and dorm staff remain on duty). The counseling staff, including the school nurse, meet once a week to discuss any common issues or challenges they are facing.

Because MEHS is a residential school, much of the counselors' time is spent in helping students work through personal issues. Personal counseling is often crisis-oriented and includes issues such as depression, substance abuse, physical abuse, and suicide ideations. Counselors also help develop self-esteem and team-building skills through their "adventure-based counseling system," which includes periodic school-wide exercises such as going through ropes courses. The MEHS community is also very supportive and becomes involved by offering "extended families" in which students belong to a family unit sponsored by staff.

In addition, counselors aid students in academic counseling, which includes scheduling issues and college exploration and application. Counselors--as well as any other staff who come across pertinent information--post notices on e-mail and on bulletin boards to inform students about scholarships, recruiter visits, special programs, etc. Various classes also help prepare students in their college search; for example, in English class, students get information from and send letters to at least three colleges: one in-state, one out-of-state, and one "dream college."

Counselors are always open to discussing career preparation and opportunities, and have shelves of books and other resources for students. In addition, MEHS opened a new Career Center this year which houses a computer-accessed career guidance system called the Alaska Career Information Service (AKCIS) as well as other career information. In an overall appraisal of career counseling, however, one counselor characterized their efforts as "not real organized." This is partly due to the many other demands on their time, and partly because there are so many ways in which career awareness and exploration are built into the MEHS curriculum.

The emphasis in the MEHS curriculum on entrepreneurship and total quality management principles helps equip students with the tools they need to research careers and identify risks and opportunities. In addition, many MEHS teachers undertake career exploration activities. For example, students in English classes may take the Myers-Briggs Personality Inventory, the Armed Services Vocational Aptitude Battery, and the Strong Interest Inventory. Students then analyze the results and write about themselves, and their teacher guides discussions about what kinds of career options might interest them.

PROFILE: LEARNING IN WORKPLACES

MEHS engages in several layers of partnerships with businesses in order to help their students learn from work experience. MEHS incorporates work readiness skills and experience into the curriculum; supports internships and community service; and engages in partnerships with business on an administrative level.

MEHS CURRICULUM AND WORK EXPERIENCE

The heart of MEHS's innovations lies in their proficiency in weaving together hands-on work experience with what students are learning in the classroom. In a region where there are very few opportunities for apprenticeships, cooperative education, or other formally structured and fixed partnerships, MEHS has responded by helping students learn to identify and meet the needs of the business community.

In a sense, MEHS has turned work experience around: instead of focusing on finding and supporting individual work experiences for students, the staff has transformed the school into a work experience. Students learn and apply work readiness, entrepreneurship, and Total Quality Management (TQM) skills.

Example of work readiness skills: working in home villages

MEHS students are constantly reinforced in their development of work readiness skills such as the ability to work in teams, communicate effectively, and appreciate the necessity of lifelong learning.

Adults in students' home villages have commented on the superior preparation of students for employment. For example, two MEHS students felt it would be extremely valuable to upgrade the technology in their village, so they took the initiative and drew up a business plan, researched costs and benefits, and suggested options in a presentation to their village tribal council. The council approved their suggestions and gave them the responsibility of coordinating the project.

Example of entrepreneurial skills: Edgecumbe Enterprises

Given the nature of the Alaskan economy, MEHS stresses to students the importance of developing entrepreneurial skills such as flexibility, adaptability, ability to identify needs and resources, and skill in assessing risks and benefits.

A prime example of students putting their entrepreneurial skills to work was the development in 1988 of Edgecumbe Enterprises, a student-run company focusing on the secondary processing of salmon. Although Alaskan businesses do a great deal of primary processing (i.e. catching and freezing fish), students, together with the business instructor and other staff, recognized a niche in the market for preparing and packaging the salmon and selling it in Japan. Students from many classes then worked together to conduct product research, develop marketing plans and brochures, calculate spreadsheets, and create bilingual business cards. Several groups of students travelled to Japan to network with CEOs and market their product. The students exported salmon until 1991, when--like a conventional business--students reevaluated the market, costs, and benefits, and decided to shut down the plant. Edgecumbe Enterprises was therefore folded into the business research and design class, and students began the process of searching out a new business opportunity.

Example of TQM skills: Alaskan Harvest

> *"I can see the influence of TQM in the students' work....It takes a lot of time, but in the end it probably saved us time and money."*
> business partner

The skills and attitudes students gain through TQM and CIP are evident throughout the school, and career skills linked to these concepts are taught across the curriculum. Students practice the ability to analyze, describe, and find solutions for a problem; to continuously evaluate systems; and to take initiative and responsibility.

Managers at Alaskan Harvest, a seafood processing plant, have noted the effectiveness of TQM applied by students working with them. Three years ago, Alaskan Harvest started a mail-order and retail store. At about that time, MEHS took out an ad in the newspaper advertising the business skills of their students, and Alaskan Harvest responded. Six months after they opened the retail store, they took on MEHS students.

The students' original task was to utilize their TQM techniques in analyzing the new mail order service. Students accomplished this by tallying and performing statistical analysis on mail order information, surveys, and customer service. Together with their managers, students then utilized this statistical information to develop a demographic profile of potential customers, which Alaskan Harvest then used to target their marketing.

The company was so impressed with the quality of work performed by MEHS students that they have worked with MEHS ever since. Subsequent projects have included developing a canned crab product with specified taste, shelf-life, packaging, and price range; helping to design and put together a catalogue for AH; and continuing to help with customer service and mail orders. Students then share information with their classmates by writing papers about methods they've used and lessons they've learned.

Approximately 20 students have worked at Alaskan Harvest at various points during the partnership. They are not paid, but receive school credit for their work. Students shadow employees, and are treated like employees themselves, with the same expectations of punctuality, accountability, and quality of work. The manager of Alaskan Harvest noted that "We tried to make them [students] feel like they're part of the company. That took a lot of time, but in the end it saved time."

Other work experience opportunities

Students have the option to obtain work experiences through individual internships, workstudy, community experience, and local jobs. Relatively few students are involved in these work experiences, and most are not structured or evaluated by school staff or connected to students' classes. Though supported by school staff, students are primarily responsible for finding and arranging these work experiences.

One instructor pointed out that to participate in internships, "students must do 99% of the work themselves, because the staff doesn't have enough time." Most internships occur during the summer, although some take place during the school year. The internship must have a scope of purpose which includes some student training and definitions of what the student will learn. Last spring 30 students started the process for an internship, but only one or two actually followed through and obtained a position.

About 5% of the students opt for workstudy arrangements with the school. Workstudy generally centers on tutoring, office work, cafeteria work, secretarial, or monitoring recreational activities. Students are paid $5 an hour, and there is no formal learning plan.

Interested students are also responsible for arranging their own community service experience. Students in the honor dormitory are required to perform community service. These experiences are relatively unstructured, with the main criteria being that they benefit the community and encompass a significant length of time (which varies depending on the type of activity involved). Community service experiences center on issues in which the students are interested; for example, a student interested in law enforcement might participate in the Sitka police ride-along program.

Very few MEHS students are able to find afterschool jobs in Sitka. This is due to limited opportunities in the area and also to their extended school hours and residential activities. The few local jobs that are available, such as candystripers or store clerks, are generally filled by Sitka High School students who live in the area.

Administrative partnerships with business

Flexibility is again a key factor in MEHS's administrative partnerships with business. The administrators of MEHS have consistently encouraged flexibility and adaptability both in terms of who makes connections and the shape the connections take. They have restructured the schedule to allow some time for teachers to search for funding and develop partnerships. In turn, teachers and staff are willing to put extra time into developing partnerships because they know their efforts will be supported.

Many of the business partnerships occur in the form of in-kind contributions to support MEHS's areas of excellence. For example, Apple Computer supports MEHS's focus on technology by giving them software. In return, the school provides feedback on the use of the software and serves as an example in Apple's marketing. In addition, MEHS is attractive to Apple because it is a statewide school and students will share lessons with their own villages. Apple representatives visit MEHS annually to take stock of examples of what MEHS does because of Appleware.

MEHS's efforts to implement Total Quality are also supported by business. Companies which implement quality principles, such as Dow Chemical and Xerox, recognized MEHS's success in implementing TQM and support their efforts by hosting presentations and financing student travel to make quality presentations. In addition, organizations such as the Juran Institute, which provides training in quality, sponsors MEHS by supporting travel to quality seminars and providing resource materials for training, continuous improvement, and instruction in the quality sciences.

STUDENT OUTCOMES:

> *"I like our classes because the teacher is not the boss; you're on the same level."*
>
> student

While most evaluations of student outcomes are anecdotal, MEHS conducts some basic follow-up and evaluations which help determine student satisfaction and other outcomes. Each year, MEHS provides a brief report card to the public which includes basic information on student population, standardized test results, and student and parent comments on school performance. Statistics such as the 23% increase in enrollment applications in 1992-93 school year support the idea that students value what they can learn at MEHS. Administrators also highlight an improvement in students' Stanford Reading Achievement

(SRA) scores from the 20th percentile when the school reopened in the fall of 1985, to the 52nd percentile in 1988, up to the 56th percentile in 1991.

In addition, state legislators in 1993 authorized an outside contractor to gather and compile additional data to assess the effectiveness of MEHS. The contractor conducted a follow-up survey of graduates since MEHS reopened, and measured various student outcomes such as student satisfaction with MEHS and their preparation for postsecondary education and a career. The results suggested a high degree of student satisfaction with what MEHS had to offer. Selected statistics include the following:

- 44% felt MEHS did very well preparing them for their current job
- 68% of graduates continued on to college or university and another 11% went to technical or trade school
- 75% of graduates felt that the school did a good job preparing them to continue their education
- 97% of graduates felt that the quality of education they received at MEHS was better than what they would have gotten at their home school
- 73% would like to see their own children attend MEHS

Anecdotal evidence reinforces the statistical findings that students feel the education they receive at MEHS is different from and better than education in other high schools. In general they appreciate the learning environment which equips them with the tools to work at their own pace and take responsibility for their own learning. Students declare that they don't mind working so hard "when you're under your own control." Most students like the framework provided by TQM; as one student put it, "it makes a lot of sense to me."

Students and teachers interact more and it's a different relationship: "my teachers respect me." In classes, the teacher may simply list the material that must be covered in a semester, and "we decided what we want to do." Students feel that their education at MEHS helps them "in the real world," as they work in teams on projects and learn to constantly evaluate issues and assess themselves. In addition, students have gained poise and self-confidence as they participated in the numerous workshops and seminars in which they shared their experiences and trained others in total quality procedures.

Students also benefit from work experience. Students cite lessons learned such as the ability to adjust to "the real world" (i.e. not going to work "hurts you;" and you have to balance quality with cost "sometimes good ideas are too expensive"). In addition, students gained communication and social skills (one business person noted that "there have been some very shy kids from rural towns who learned to talk--but not too much!--on the phone"). Finally, students were quick to cut through to the bottom line and recognize that if they did a good job, the companies where they worked "view you as a potential employee."

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the reforms at Mt. Edgecumbe High School, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team. The following elements stand out as essential to the success of MEHS's reforms:

1. systemic reform process
2. innovative curriculum
3. competencies and portfolios
4. business partnerships
5. collaboration with other educational stakeholders
6. residential school

1. Systemic reform process

MEHS has engaged in a well-thought-out and carefully constructed change process structured around the philosophy of TQM. Among its other tenets, Total Quality calls for a clearly articulated vision, the involvement of stakeholders in the decision-making process, and constant evaluation and improvement of the process. MEHS built all of this on the foundation of strong administrative leadership which served as "a pace car to set the pace and then get out of the way." This resulted in staff and students being engaged in the process and willing to change.

Barriers to a successful change process, as identified by students, staff, and administrators, include:

- logistical difficulties involved in structuring a system involving all the stakeholders
- political difficulty of convincing those who wielded power under the old system to share power in new system (at levels ranging from classrooms to school boards)
- difficulty in convincing those who had limited power under the old system (i.e. students) that their input was desired and would be valued
- challenge of sustaining ongoing interest, commitment, and involvement of all stakeholders

- challenge of sustaining administrative leadership, commitment, and continuity in supporting the system (i.e. allocating resources)

2. **Innovative curriculum**

MEHS prepares students with an integrated curriculum infused with TQM, entrepreneurial skills, work-readiness skills, technology, and Pacific Rim studies. Because classes are interdisciplinary, hands-on, and often connected to real-life examples, students' interest is caught and learning becomes fun. In addition, businesses appreciate students' readiness and ability to perform satisfactorily in a workplace, and cite student familiarity with computers and application of quality principles as very beneficial. Business partners feel that quality is evident in the students' work: "Students focus on the process of quality, producing professional quality reports, so they're learning twice as much as other kids."

Barriers to implementing the innovative curriculum, as identified by students, staff, and administrators, include:

- lack of resources to pay for staff time to further integrate classes (i.e. half-day multidisciplinary classes)
- requires additional time and interest on the part of teachers (i.e. in learning technology, finding business partners, etc.)
- lack of total commitment by some staff to the concept of integrated classes
- time and logistical difficulties in fitting in all classes and offering some to students from other schools
- inability of some students to fit in some of the elective classes they would like to take

3. Competencies and portfolios

> *"Students aren't worried about just a grade--it was more than that; they're acquiring skills."*
> business partner

MEHS's focus on measuring student success primarily through student portfolios and attainment of competencies not only reinforces students' impression of the connection between school and "the real world;" but also provides business with an indication that students have mastered defined concepts and skills. Business partners feel more confident in the fact that "these kids are acquiring competencies and skills" than if "they were simply getting an A or a B in a class."

Barriers to measuring student achievement through competencies and portfolios, as indicated by students, staff, administrators, and business people, include:

- devising a system that supports students as they switch from the grading system of their home school to MEHS's system
- convincing all instructors that this is an effective, meaningful, and worthwhile system
- supporting instructors with training and extra time initially to develop and subsequently to refine the system
- ensuring that the larger community--business, postsecondary and other educational partners, and parents--recognize the value of such a system

4. Business partnerships

MEHS's emphasis on being aware of and responsive to local and international economic conditions and encouraging staff members to forge new business partnerships has led to a system that is flexible, decentralized, and adaptable--much like the global economy for which they are preparing students.

Barriers to successful business partnerships, as identified by staff, administrators, and business people, include:

- very limited opportunities for student work experience in local companies
- system is dependent on staff who are flexible and comfortable with being very aggressive in pursuit of new partnerships
- system requires constant fine-tuning of curriculum in response to new business opportunities
- need a closely integrated curriculum emphasizing higher-order thinking and work readiness skills

5. Collaboration with other educational institutions

MEHS has experienced increasing success over the years in its efforts to forge links with nearby educational institutions. MEHS established curricular links with its neighboring high school, extended student learning paths into postsecondary institutions, and is working on formalizing further education and training collaboratives.

Barriers to successful collaboration, as identified by students and MEHS and postsecondary staff, include:

- challenge of establishing a common vision and language among the various collaborating institutions
- difficulty in fostering commitment among various partners at various levels, including administrators, instructors, and students

- challenge of ensuring that partnering institutions have a thorough understanding of MEHS's unique pieces (i.e. TQM, competencies)
- administrative difficulties inherent in sharing resources (i.e. who takes the lead/handles money, etc.)
- system is dependent on consistent, committed leadership (thus there is a danger if new leaders come in)

6. Residential status

The fact that MEHS is a residential school is one of the factors contributing to the success of its reforms. Thus, for instance, MEHS has the flexibility to schedule additional time for school activities. In addition, because MEHS is the institution at the center of students' daily lives, it can in general count on a high degree of interest in and commitment to the school philosophy and programs. One business person also noted that students have less time to get in to trouble: "It's residential, so the activities keep the students busy from 6:30 a.m. to 10:00 p.m."

MEHS's residential status poses **barriers** as well. As identified by students and staff, these barriers include:

- resources and time are spent responding to students' personal needs or crises
- it is difficult to develop quality systems in dorms that respond to all student needs (not too restrictive or too unstructured)
- there are administrative difficulties due to separate funding streams and mandates for teaching and dorm staff

- there is a related difficulty in establishing a common vision and philosophy for the school when training is different for teaching and dorm staff
- some students and staff feel that there are some classes which should be available during the normal course of the day, but are instead shifted to extracurricular status because of the fact that the school is residential and thus students are available in the evenings, and because of the pressure to fit in all of the "core" classes

APPENDICES

APPENDIX A

Mt. Edgecumbe High School's Modified Deming Points for Quality in Education

(Updated 5/93)

1. Create and maintain a constancy of purpose toward improvement of students and service. Aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society.

2. Embrace the new philosophy. Educational management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

3. Work to abolish grading and the harmful effects of rating people. Focus on the learning process, not the rating process.

4. Cease dependence on testing to achieve quality. Eliminate the need for inspections on a mass basis (standardized achievement tests) by providing learning experiences which create quality performance; learning experiences that encourage creativity and experimentation.

5. Working with the educational institutions from which students come. Minimize total cost of education by improving the relationship with student sources and helping to improve the quality of students coming into your system. A single source of students coming into system such as jr. high students moving into a high school is an opportunity to build long term relationships of loyaltyand trust for the benefit of students.

6. Improve constantly and forever the system of student improvement and service to improve quality and productivity in personal life and community.

7. Institute continuous training on the job for students, teachers, classified staff and administrators: for all people connected to the human organization or community.

8. Institute leadership. The aim of supervision (leadership) should be to help people use technology and materials to do a better job and set the pace driving human creativity.

9. Drive out fear, so that everyone may work effectively for the school system.Create an environment which encourages people to speak freely and take risks.

10. Break down barriers between departments. People in teaching, special education, accounting, food service, administration,curriculum development and research must work as a team. Develop strategies for increasing the cooperation among groups and individual people. Planning time will facilitate this dynamic.

11. Eliminate slogans, exhortations, and targets for teachers and students asking for perfect performance and new levels of productivity. Exhortations create adversarial relationships. The bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the control of teachers and students.

12. Eliminate work standards (quotas) on teachers and students. (e.g. raise test scores by 10% and lower dropouts by 15%.) Substitute leadership the eternal drive for quality and joy of learning.

13. Remove barriers that rob the students, teachers and management (principals, superintendents and central office support staff)of their right to pride and joy of workmanship. This means abolition of the annual or merit rating and of management by objective. The responsibility of all educational managers must be changed from quantity to quality.

14. Institute a vigorous program of education and self-improvement for everyone.

15. Put everybody in the community to work to accomplish the transformation. The transformation is everybody's job.

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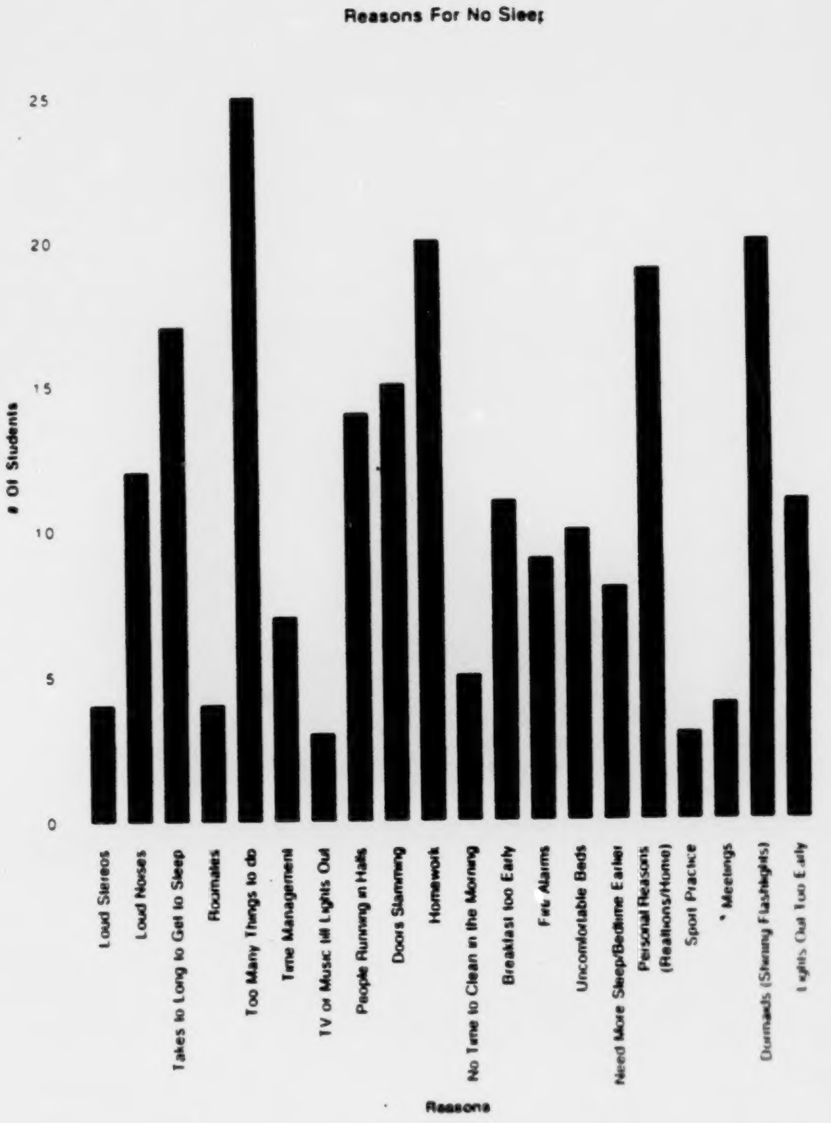
APPENDIX B

MEHS Business R&D Sleep Survey

Reasons For Not Getting Enough Sleep:

Loud Stereos	4
Loud Noises	12
Takes to Long to Get to Sleep	17
Roomates	4
Too Many Things to do	25
Time Management	7
TV or Music till Lights Out	3
People Running in Halls	14
Doors Slamming	15
Homework	20
No Time to Clean in the Morning	5
Breakfast too Early	11
Fire Alarms	9
Uncomfortable Beds	10
Need More Sleep/Bedtime Earlier	8
Personal Reasons (Realtions/Home)	19
Sport Practice	3
Meetings	4
Dormaids (Shining Flashlights)	20
Lights Out Too Early	11

Reasons students at Mt. Edgecumbe High School aren't getting enough sleep



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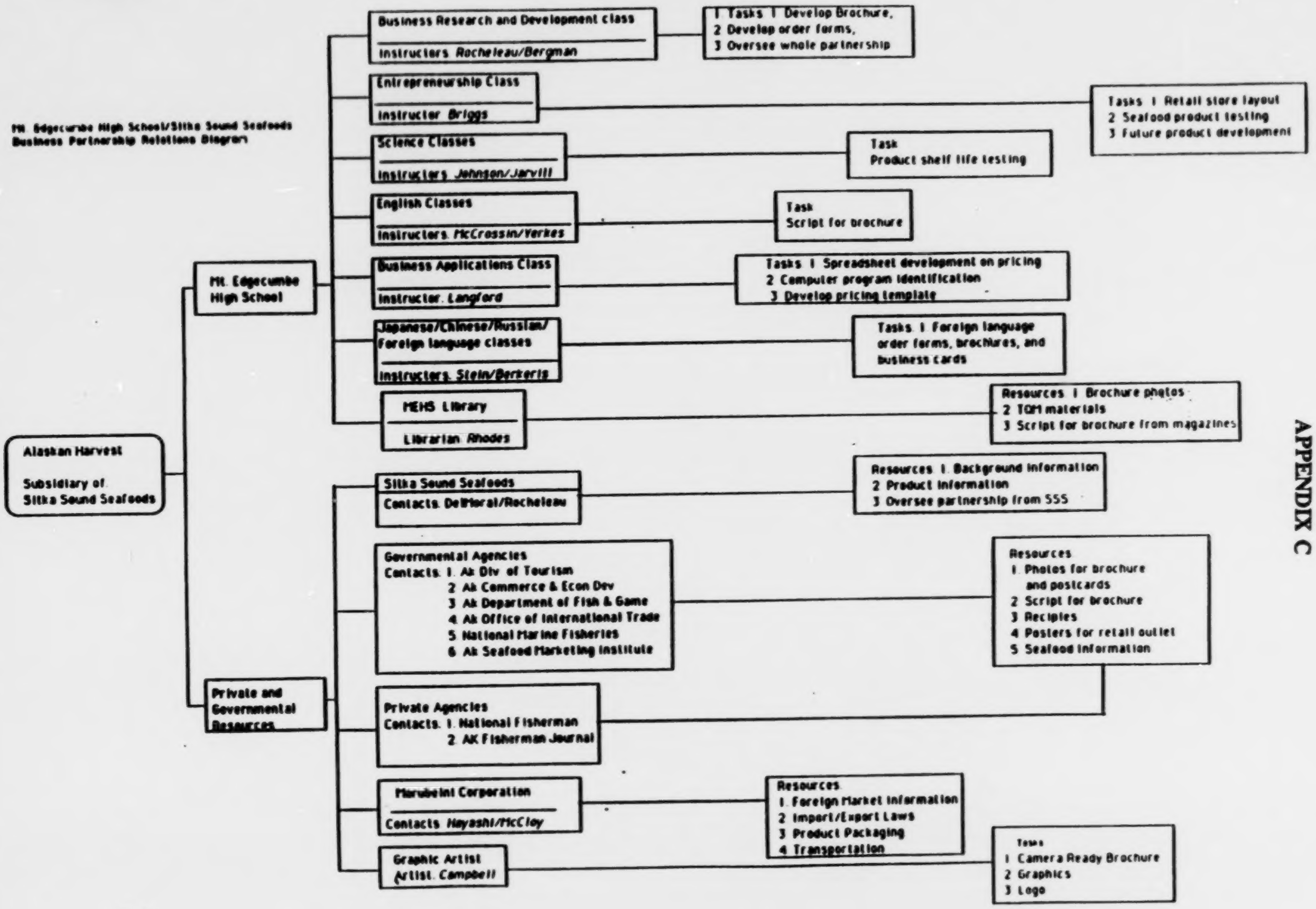
APPENDIX C

Mt. Edgecumbe High School/Sitka Sound Seafoods
Business Partnership Relations Diagram


Alaskan Harvest
Subsidiary of Sitka Sound Seafoods
Mt. Edgecumbe High School
Business Research and Development class
Instructors Rocheleau/Bergman
1 Tasks 1 Develop Brochure, 2 Develop order forms, 3 Oversee whole partnership
Entrepreneurship Class
Instructor Briggs
Tasks 1 Retail store layout 2 Seafood product testing 3 Future product development
Science Classes
Instructors Johnson/Jarvill
Task Product shelf life testing
English Classes
Instructors McCrossin/Yerkes
Task Script for brochure
Business Applications Class
Instructor Langford
Tasks 1 Spreadsheet development on pricing 2 Computer program identification 3 Develop pricing template
Japanese/Chinese/Russian/Foreign language classes
Instructors Stein/Berkeris
Tasks 1 Foreign language order forms, brochures, and business cards
MEHS Library
Librarian Rhodes
Resources 1 Brochure photos 2 TQM materials 3 Script for brochure from magazines
Private and Governmental Resources
Sitka Sound Seafoods
Contacts DelMoral/Rocheleau
Resources 1 Background information 2 Product information 3 Oversee partnership from SSS
Governmental Agencies
Contacts 1 Ak Div of Tourism 2 Ak Commerce & Econ Dev 3 Ak Department of Fish & Game 4 Ak Office of International Trade 5 National Marine Fisheries 6 Ak Seafood Marketing Institute
Resources 1 Photos for brochure and postcards 2 Script for brochure 3 Recipies 4 Posters for retail outlet 5 Seafood information
Private Agencies
Contacts 1 National Fisherman 2 AK Fisherman Journal
Marubeini Corporation
Contacts Hayashi/McCloy
Resources 1 Foreign Market information 2 Import/Export Laws 3 Product Packaging 4 Transportation
Graphic Artist
Artist Campbell
Tasks 1 Camera Ready Brochure 2 Graphics 3 Logo

Skogan/Rocheleau
2/4/92
MEHS

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APPENDIX D

Subject / Course / Project/ Activity... Name

Name

Updated 4-8-94 9:44 AM

Learning Activity

Learning Outcome	Competency Category	Competencies	125	Knowledge	Understanding/ Comprehension	Application	Analysis	Synthesis	Appreciation/ Evaluation
			57						
			58						
			59						
			60						
			61						
			62						
			63						
			64						
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			108						
			109						
			110						
			111						
			112						

Mt. Edgecumbe Quality Self Assessment Matrix: Understanding and Improving Learning

MEHS Computer Technology II

Name

Updated 4/8/94 9:44 AM

Learning Outcome	*Competency Category*	*Competencies*	49	Knowledge	Understanding/ Comprehension	Application	Analysis	Synthesis	Appreciation/ Evaluation
	Establish personal vision	Establish personal values							
		Establish personal goals	2						
		Establish personal outcomes	3						
		Establish personal competencies	4						
		Establish personal mind map	5						
		Establish personal vision matrix	6						
		Support personal vision/outcomes	7						
	Recognize Opportunity	Value brainstorming	8						
		Value other's opinions/perceptions	9						
		Know when to stop	10						
		Establish consensus	11						
	Make Commitments	Commit to an outcome	12						
		Be disciplined	13						
Use Technology to Enhance Personal Performance	Establish a process	Commit to a process PERT	14						
		Manage Process	15						
		Complete process	16						
	Apply Quality processes and tools	Value brainstorming	17						
		Value other's opinions/perceptions	18						
		Analyze trends	19						
		Establish consensus	20						
		Apply Quality process	21						
		Apply Quality process	22						
		Apply Quality process	23						
		Apply Quality tool:	24						
		Apply Quality tool:	25						
		Apply Quality tool:	26						
		Apply Quality tool:	27						
	Apply Quality Cycle	PDSA or other	28						
		Critical success factors	29						
		Collect data	30						
		Measure/Analyze	31						
		Generate actions	32						
		Implement actions	33						
		Validate actions	34						
		Refine actions	35						
	Apply Technology	Efficiency on MAC workstation	36						
		Efficiency on MAC network	37						
		Navigate system	38						
		Communicate in system	39						
		Manage personal records	40						
	Interpersonal Skills	Team Philosophy	41						
		Offer Help	42						
		Accept Help	43						
		Humor	44						
	Self Help	Help self	45						
		Help from peers	46						
		Help from managers/facilitators	47						
		Help from internal resources	48						
		Help from networking	49						
	Specific Software or applications	Application	50						
		Application	51						
		Application	52						
		Application	53						
		Application	54						

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[illegible] Quality Self Assessment Matrix: Understanding and Improving Learning

MEHS Business R&D

Name

[illegible]	Competency Category	Competencies	48	Knowledge	Understanding/ Comprehension	Application	Analysis	Synthesis	Appreciation/ Evaluation
	Allocating Resources	Time							
		Money							
		Materials							
	Work Maturity	Patience	4						
		Following schedules/Time management							
		Complete processes and tasks started	6						
		Productive use of time							
		Tolerance for others and their opinions	8						
		Maintaining clear lines of communication	9						
	Interpersonal Skill	Lifelong learning of	10						
		Value-of							
		Necessity for	12						
		Decision making skills	13						
		Leadership Style	14						
		Relationships between training and work	15						
		Team Philosophy	16						
		Team Role	17						
		Team Role	18						
		Team Role	19						
		Team Role	20						
		Team Role	21						
		Establish Consensus	22						
Become effective leaders		Offer help	23						
		Accept help	24						
		Humor	25						
	Using Information	Written communication	26						
		Business letters	27						
		Invoices	28						
		Purchase orders	29						
		Office memoranda	30						
		Business reports	31						
		Use communication services/electronic	32						
		Use of resources and references	33						
		Business structures/types	34						
		Management functions	35						
		Sources of financing	36						
		Risk management	37						
		Business law	38						
		Government regulations	39						
		Recognizing Business opportunities	40						
	Understanding Systems	Organizations	41						
		Local communities	42						
		State communities	43						
		National communities	44						
		International communities	45						
		Understanding systems processes/tools	46						
	Using Technology	Telephones/modems/fax	47						
		Computers and software	48						
	Free Enterprise System	Macro economics	[illegible]						
		Micro economics	[illegible]						
		Free enterprise system	[illegible]						
		Major trade regions of the world	[illegible]						
		Role of money in economy	[illegible]						
		Differences/similarities in free econ. systems	[illegible]						
		Domestic trade	[illegible]						
		Customer's impact on business	[illegible]						
		Exports/imports	[illegible]						
		International economic systems	[illegible]						
		The role of trade in economy	[illegible]						
		International trade	[illegible]						
		Markets	[illegible]						
		Business insurance systems	[illegible]						
		Marketing	[illegible]						
		Consumers	[illegible]						
		Workforce Trends	[illegible]						
		Government in economics	[illegible]						
		Labor unions in economics	[illegible]						
	Self help	Help self	[illegible]						
		Help from peers	[illegible]						
		Help from managers/facilitators	[illegible]						
		Help from internal resources	[illegible]						
		Help from networking	[illegible]						
	Specific Processes and Tools	Apply Quality process	[illegible]						
		Apply Quality process	[illegible]						
		Apply Quality process	[illegible]						
		Apply Quality tool	[illegible]						

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ME Electronic Quality Self Assessment Matrix: Understanding and Improving Learning

MEHS Business Management & Leadership

Name

Updated 4 8 94 9 44 AM

Learning Outcome	Competency Category	Competencies	49	Knowledge	Understanding/ Comprehension	Application	Analysis	Synthesis	Appreciation/ Evaluation
Become effective managers	Allocating Resources	Time							
		Money	2						
		Materials							
	Work Maturity	Patience	4						
		Following schedules/Time management	5						
		Complete processes and tasks started	6						
		Productive use of time	7						
		Tolerance for others and their opinions	8						
		Maintaining clear lines of communication	9						
	Interpersonal Skill	Lifelong learning of	10						
		Value-of							
		Necessity for	12						
		Decision making skills	13						
		Leadership Style	14						
		Relationships between training and work	15						
		Team Philosophy	16						
		Team Role	17						
		Team Role	18						
		Team Role	19						
		Team Role	20						
		Team Role	21						
		Establish Consensus	22						
		Offer Help	23						
		Accept Help	24						
		Humor	25						
	Using Information	Written communication	26						
		Business letters	27						
		Invoices	28						
		Purchase orders	29						
		Office memoranda	30						
		Business reports	31						
		Use communication services/electronic	32						
		Use of resources and references	33						
		Business structures/types	34						
		Management functions	35						
		Risk management	36						
		Business law	37						
		Government regulations	38						
		Recognizing Business opportunities	39						
	Understanding Systems	Organizations	40						
		Local communities	41						
		State communities	42						
		National communities	43						
		International communities	44						
		Understanding systems processes/tools	45						
	Using Technology	Telephones/modems/fax	46						
		Computers and software	47						
	Financial Management/Accounting	Manage a budget	48						
		Effective financial decisions	49						
	Free Enterprise System	The new economics	50						
		Customer's impact on business	51						
	Self Help	Help self	52						
		Help from peers	53						
		Help from managers/facilitators	54						
		Help from internal resources	55						
		Help from networking	56						
	Specific Processes and Tools	Apply Quality process	57						
		Apply Quality process	58						
		Apply Quality process	59						
		Apply Quality tool	60						
		Apply Quality tool	61						

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Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

CENTRAL VALLEY HIGH SCHOOL SCOPE

CASE STUDY REPORT

Prepared by:

Anne Rogers and Scott Menzel
National Institute for Work and Learning
Academy for Educational Development

July 1995

1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Veradale, Washington the week of May 23-May 27, 1994, to study the SCOPE (Student Career Opportunity Paths in Education) program at Central Valley High School. Our interest was attracted by the high school's focus on career guidance and exploration as the core theme and process of a school-to-work transition reform.

ACKNOWLEDGEMENTS

We want to thank Dan Ruddell, who organized our site visit and spent much of his time with us over four days. Dr. Larry Parsons, principal of Central Valley High School, and Cheryl Regnier, counselor, also gave generously of their time as they explained the history, vision, and development of SCOPE.

We'd also like to extend our appreciation to the many instructors who met with us and invited us into their classrooms, including Jerry Connors, Dale Ethridge, Bob Gehres, Bill Gilchrist, Jana McKnight, and Sue Mihalic. We'd like to thank the Spokane Goodwill Industries Board of Directors, as well as Bob Gehres and his design technology students, for inviting us to attend the luncheon and design presentations.

We benefited greatly from the observations of Dr. Dick Sovde, superintendent of the school district, and Mike Pearson, vocational director for the district. Our appreciation goes as well to the entire counseling staff of the high school, as well as to the counselors from community organizations who spoke with us about the issues facing the current group of students.

A number of students talked to us about their experiences with SCOPE. We'd like to thank the student advisory committee, especially Ian Hughes and Jerry Martin.

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INTRODUCTION

Central Valley High School (CVHS) initiated its school-to-work transition reform with a rethinking of the school's career guidance system intended to transform the curriculum, the school's connections with its community, and the school environment itself, as well as the guidance and counseling process. Called SCOPE, or Student Career Opportunity Paths in Education, it has reorganized the curriculum around career paths designed to eliminate the vocational/academic split, reorganized the guidance process around the development of individualized five-year plans designed to set student goals at least one year beyond high school graduation, and reorganized the curriculum and pedagogical approach so as to infuse classrooms with people and perspectives brought from the community and its workplaces.

The SCOPE program at CVHS has several features that distinguish it from many school-to-work transition programs. First, the high school has hired a full-time coordinator, with a business background, whose time is devoted exclusively to SCOPE and who reports directly to the principal. Second, the basis of SCOPE's reform is career assessment and counseling, and the changes in the curriculum and teaching flow from the structure and assumptions implicit in that system.

SCOPE had nearly completed only two years of implementation at the time of the AED/NIWL site visit. Although a very young program, it had made headway in accomplishing many of its goals, according to our observations and the observations of those involved.

CONTEXT

Central Valley High School is located in the small community of Veradale, Washington, less than a half hour's drive from Spokane on the interstate. One of two high schools in the district, CVHS houses about 1200 students in grades ten through twelve. There are five junior high schools and thirteen elementary schools in the district as well.

Although the first impression is of a community more rural than urban, signs of rapid development are everywhere, and business growth in health care, software, and environmental sciences promises new opportunities to students prepared to compete for them. Ninety percent of area businesses have fewer than ten employees, however. Unemployment is 6.8 percent.

The reform that is the subject of this case study began in May 1990, when the district hired a new principal for CVHS. Concerned to engage the leaders among the teaching staff, the principal began his tenure by calling together the five department coordinators and, as a group, they identified goals for the school. First, they agreed that the campus needed to focus: the sixty-five teachers on the faculty were headed in too many different and at times incompatible directions. Second, they agreed that bridges between departments were needed: areas of study were isolated and unaware of developments in other areas. Third, they agreed to eliminate tracking that divided college-bound from noncollege-bound students: they were convinced not only that students in the noncollege-bound track received an inferior education, but that since most jobs do not require a college degree, making college a goal for most students did not make sense.

This process of goal-setting yielded a new vision of what education at CVHS could become, one which incorporated two basic beliefs. First, schooling should be "practical and relevant" to life outside of school, demonstrating for students connections between what they learn in the classroom and its application in the workaday world. Second, all students have the right to a quality education that prepares them for life after high school, regardless of their postsecondary plans.

In the spring of 1991, the principal, a counselor, and the district's vocational administrator attended a conference at which they learned about the COPE program at Woodland School in California, which appeared to embody these beliefs and address the three goals the faculty had set for the school. To observe the Woodlands program directly, the principal subsequently sent a committee of eight teachers, deliberately selected to include those informal opinion leaders (some of whom were lukewarm at first) who would have the ability, if persuaded themselves, to sell the program to the rest of the staff.

Convinced of the COPE program's potential value in Veradale, the entire committee set out to persuade other teachers to support its introduction in the high school. On the last day of the school year, in May/June 1991, the faculty voted 60 to 2 in favor of implementing COPE at CVHS.

With the arrival of the new class of sophomores in September 1992, Central Valley began implementing the new program. The next fall, they added the new class of sophomores. With September 1994, all CVHS students would be engaged in the new program. The new director of secondary education, an administrator involved with SCOPE since the beginning, planned to see SCOPE become district-wide that September as well.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

It's a process. You can't plug it in like an appliance and make it work.
Administrator

Named SCOPE, which stands for "Student Career Opportunity Paths in Education," the new initiative brought a comprehensive plan for infusing career awareness and planning throughout every program and process of the high school: guidance counseling, curriculum and teaching, etc. Operating within the typical organizational structure of a small high school, SCOPE has begun to transform the system of education experienced by students.

The concept of SCOPE is visually diagrammed as a set of four overlapping circles: focused curriculum, guidance and counseling, community resources, and school environment. First, a focused curriculum is based on the six career paths, broad areas of academic and career-vocational education designed to eradicate the academic/vocational split. All students are placed on one of these career paths as soon as they enter the high school. All teachers are required to use "career infusion activities" in their classrooms, in order to produce a curriculum that is more "relevant and practical."

Second, guidance and counseling services must develop a five-year educational plan for each student, a specific and individualized course of study directed towards the student's career goals. The high school also invites about a dozen social agencies onto the campus to work with students, in order to free up its own counseling staff to focus on this process.

Third, community resources, means calling upon business and other resources to help students explore the work world. They can do so by providing speakers, field trips, internships, job shadowing, or employment.

Fourth, school environment, encompasses safety, student-centeredness, and recognition of diversity. The ideal is an environment that shows students the purpose of their being in school, helps them see its relevance, and motivates them to develop their potential.

The department most immediately and deeply affected by SCOPE's introduction was guidance and counseling, because SCOPE required a fundamental philosophical shift, as one counselor explained, from simply plugging students into course openings, to helping students devise five-year career plans and register for electives based on those plans. Through a partnership with ACT [American College Testing], the school adapted ACT's DISCOVER software, a comprehensive career guidance system that incorporates assessment and self-awareness with up-to-date information about postsecondary education and employment areas. ACT agreed to let the school use its logo and adapt its materials. Not only the junior highs in the district, but some local community and four-year colleges also use the DISCOVER software, ensuring a familiar system for students to access throughout their education.

The process begins in the ninth grade, before students even enter CVHS, when they take an ACT interest inventory called UNIACT. Central High guidance counselors visit junior high classes to explain the "World of Work" map and the process of selecting courses based on career interests. Career path leaders make presentations on the paths. Based on the information obtained through the interest inventory, students decide on one of the six career paths, with the result that they are placed on a career path before they actually arrive at CVHS. Students are not locked into this initial selection, being free to change career paths at any time in high school.

The World of Work map is shaped like a wheel whose hub displays the four axes of people, ideas, things, and data. Around the hub are arranged the six career paths:

- Business Marketing and Management (153)
- Business Communications and Operations (97)
- Technology in Society (186)
- Engineering, Science, and Medical Services (266)
- Creative and Applied Arts (219)
- Social, Health, and Personal Services (316)

(The numbers in parenthesis indicate the number of students in each career path in late May, 1994.) The map offers a visual model to show how the preferences relate to the paths. In other words, people who prefer to work mainly with ideas and things, cluster into the Science career path. People who prefer to work with ideas and people cluster in the Arts path--and so on around the circle. They originally considered "career pathing" on the curriculum, i.e., English career path, but instead decided to do "work-task pathing."

Every year, different types of inventories are administered to students, in order to continually evaluate the appropriateness of their chosen career path. The sophomores do an experience inventory at registration for the coming year, the juniors, an abilities inventory.

The selection of a career path provides the basis for the five-year plan that is the focus of guidance counseling for every student at CVHS. Beginning with the student's career path enables the guidance counselor and the student to devise a plan that sets forth the courses the student will need to take in order to pursue employment successfully in his chosen career. The fifth year could be military service, trade school, community college, a baccalaureate program, employment, or some combination that supports the student's career goal, but specifying the purpose of the fifth year, it is hoped, sets the sights of students beyond the limited goal of graduation. Students are given a postsecondary handbook during the spring of their junior year and again in the fall of their senior year, which details numerous options for particular career interests ranging from apprenticeships to military academies to employment to college. Also included is information and guidance about how to pursue each option, with emphasis on Washington state. This approach also reflects the new vision of Central Valley's staff, that rather than assuming that their purpose is to graduate students prepared for four-year college or university programs, they recognize that there are many paths towards preparing for work and for life after high school.

Each year at registration, students are required to complete a new five-year plan, a process that requires students to reconsider their career objectives and the path to achieving those objectives, and to reinforce the fact that they have many postsecondary options from which to choose. The students complete a form recording the courses they have already taken, requesting courses for the current semester (including both requirements and electives that fit into their career objectives), and identifying their plans after graduation to meet their career objectives. Counselors emphasize with students that high school is not enough, that everyone will have to obtain some kind of specialized training in order to obtain good employment in their area of interest.

Introducing SCOPE also required reconfiguration of the guidance department's staffing. Before SCOPE, counselors tried to deal with personal issue as well as provide guidance counseling. Subsequently, the school solicited assistance from community social services agencies, enabling the school to provide both referrals and regularly scheduled on-site therapeutic counseling from clinical psychologists, including groups on such topics as substance abuse. These counselors also consult with the guidance staff on how to deal with crisis situations or broader issues. The school hired a part-time nurse, who deals with health issues, including eating disorders and unplanned pregnancies, and runs a support group for young mothers.

Expanding their counseling resources enabled the guidance staff to focus almost exclusively on academic and career counseling. An additional guidance counselor was also hired.

SCOPE has also had an impact on the organization of the faculty. Teachers continue to teach courses in their own subject areas, but all have had to commit to one of the six career paths. Some expressed confusion as to how they came to be assigned to one career path rather than another.

The teachers in each career path vote for a career path leader. This has created a new level of leadership, in addition to the five existing department heads. Some career path leaders have taken on the responsibility for helping instructors in that path integrate SCOPE approaches into their curriculum. The counselor who led the development of SCOPE serves as a liaison to career path leaders. Some feel that there is uncertainty about the relationship between department heads and career path leaders. The career path leaders and department heads met for the first time about a month before the AED/NIWL site visit, and found some concern about redundancy of these roles.

Central Valley High initiated SCOPE depending on its existing school staff to carry out all aspects of the reform. It became clear that, most acutely in the area of forming alliances in the community, the school had to have one full-time staff member entirely devoted to the program.

The individual hired in October 1993 for the new position of community coordinator brought more than twenty years of business experience, most of it in the Spokane area, and an extensive network of professional contacts that extends beyond Spokane. He also had volunteered his time in Central Valley High, and served on two Chambers of Commerce education committees, demonstrating an interest in education and commitment to students.

In his first few months on the job, his tireless efforts had resulted in the presence of business representatives in the school every day of the week, addressing classes. He had increased the range of job shadowing opportunities for students, arranging placements as far away as Seattle or Boise. Through partnerships with business and classroom teachers, the coordinator had also initiated comprehensive work-based experiences for students, like the Goodwill Industries project discussed below.

It is worth underscoring what the hiring (and funding) of such an individual says about the high school's commitment to change. His dynamic style and the breadth of his expertise and vision guaranteed that the coordinator would not be content to work as a functionary, but would push for change. Deciding to appoint him was not simply a choice to relieve overburdened staff, but a reaffirmation of the original commitment to basic reform embodied in SCOPE.

The community coordinator brought with him a strong commitment to engage students more fully and in leadership roles in the process of SCOPE. His first step towards that goal was to encourage student participation in the conference the school offered in late March 1994 to explain the SCOPE system, in response to the many inquiries and visitors. Shortly before the AED/NIWL site visit, a fourteen-member student advisory committee was created, whose initial purpose was "to offer and refer constant input/feedback" on SCOPE, including representing SCOPE to their peers, other educators, and community resource people. Exactly how the group would operate was as yet unsure, but its basic purpose, to inculcate more student leadership, was clear.

Besides strengthening ties with its local community, Central Valley has forged important connections with the state government in Olympia. A close working relationship with a state legislator has not only provided Central Valley with timely information, but has enabled the school to assume a leading role in positive developments statewide for school-to-work transition reform. The school has used its connections to try to influence policy decisions with implications for SCOPE, for example. High schools in Washington had encountered problems when the state's colleges and universities refused to accept integrated math and science in satisfaction of college entrance requirements. The state legislature intervened, passing a law that granted high schools the authority to tell colleges and universities which classes satisfy specific college entrance requirements.

PROFILE: LEARNING IN SCHOOLS

> *What we're going for is a systemic approach to what good teachers have done for years.*
>
> Principal

Perhaps the most difficult element of the SCOPE reform to realize is the purpose of changing what happens in the classroom, especially the traditional academic classroom. The principal has taken the public position that SCOPE cannot be successful as an add-on or parallel track to existing courses; it must be integrated with the curriculum. What SCOPE means, in this vision, is that "every day and every way" students should be shown connections between what they are learning and the world outside of school. When students leave any classroom, they should be able to answer both of these questions: What did you learn? Why did you learn it? Ultimately, as the principal's use of the term "vocademics" indicates, the vision is of a high school curriculum that eliminates traditional distinctions between application (vocational) and learning (academics).

The more that the site visitors listened and learned, the more it became clear that SCOPE does not mean simply that information or even activities related to careers should be added to the regular curriculum. What it means, to those leading the reform, is that teachers must bridge the gap between academic learning and its real world applications, demonstrating how learning is relevant or related to the real world.

In this sense, "careers" simply provide a vehicle or a "hook" for an approach to learning that has been variously called contextual, applied, or experiential learning. As the principal and several teachers independently commented, good teachers have always taught this way, including some at Central Valley High School.

"Practical and relevant" has become a key phrase and the basis for implementing what are called "career infusion activities." As the second year of SCOPE began, the principal mandated that every teacher in the high school include at least five career infusion activities in each course during a school year. The "World of Work" map is required to be posted in every classroom. These activities are intended to make explicit the connection between a particular academic subject and careers.

The response has varied: some teachers have simply brought in outside speakers five times a year; others have embarked on more ambitious efforts to "infuse" their course curriculum with career activities--up to thirty-five activities in some classes; a handful have simply failed to meet the quota of five activities. It is difficult to gauge the extent of real resistance, but most teachers appear to have accepted SCOPE with some degree of willingness. Teachers in subjects as diverse as English, history, science, art, sports medicine, and design technology have responded enthusiastically. Some of the most hesitant appear confused or unsure how to integrate career activities with their subjects. A few complain about the time required to complete forms devised by the administration. Others insist that the value of education for its own sake is placed at risk by an emphasis on "relevance."

The administration has not set aside time specially for inservice training on career infusion, and in fact the principal states strongly his belief that teachers should make the time themselves for this kind of preparation. The principal has, however, offered to hire a substitute for any teacher who wishes to spend a day in the community making connections with local business or other local resources. They have brought in several speakers to explain and demonstrate how integration can be done in academic subjects. In addition, both the principal and the community coordinator say they have repeatedly offered again to work one-on-one with any teacher who does not understand how to integrate such activities into their course work.

One example from a Central Valley history class indicates how career infusion plays out in an "academic" classroom. The teacher told his students, during their study of the Civil War, to chose their favorite character from the war. Near the end of that unit, the teacher asked the students to imagine themselves to be their favorite character, facing the end of the war and in need of a job. Each student prepared a resume for their character. This assignment provided students with resume-writing practice, which, if carried out thoughtfully, also placed them in a very immediate way in the historical context under study.

One English teacher has found a variety of ways to integrate writing with career infusion. For example, his students searched for poems about different careers and wrote abstracts of the poems. He assigned a journal entry titled "The Worst Day at the Best Job," inviting students to write about the worst day on their ideal job, egging them on to be wildly imaginative. In groups of threes, the students read and critiqued each other's journal entries. The underlying theme of the exercise was to explore obstacles likely to be encountered in careers and ways to overcome them.

All the sophomores write research papers on one occupation selected from their career paths, in order to explore and evaluate their own career interests while learning how to research occupations. Instead of preparing a standard term paper, they create brochures which may include photographs, maps, etc. Students within each career path meet to compile and present their findings to the class.

The principal's mandate, combined with the system of career pathways that involves every teacher in a career cluster, insists that academic teachers cannot avoid the change brought by SCOPE. This aspect distinguishes Central Valley's effort from many school-to-work transition programs that allow academic teachers to continue teaching much as they have always done. The resistance from some teachers may be to this deeper reform, rather than to adding five activities to their lesson plan.

PROFILE: LEARNING IN WORKPLACES

> *One of our reasons for doing this is to give students experience with real life projects and attendant frustrations. I can simulate many things, but not the real life aspects.*
> Career path leader

A few instructors at Central Valley had a history of calling upon community resources and career-related activities in their classes, but most did not before the advent of SCOPE. In hiring the community coordinator, Central Valley High School took an important step towards strengthening its partnerships with business and other community resources who could provide such opportunities. After only a few months, those involved credited the coordinator with having made "a huge impact."

Most connections between work sites and the classroom have been limited to visits from representatives of business or other organizations. The coordinator makes available to teachers a list of nearly one hundred community resource people and organizations to call upon. Individuals on the list range from a pilot to a tile installer to a judge to a truck driver, and organizations include small and large businesses ranging from banks to lumber yards to a carpet retailer, as well as colleges, government offices, and medical facilities. As part of a "career infusion activity," the community representative speaks to a class about her career, how she prepared for her career, trends in her industry, and so forth. The quality of these visits, and the engagement of the students, obviously varies with the quality of the speaker and the degree to which the visit is incorporated with the ongoing work of the class.

One classroom in which these arrangements appear to work very well is STAR (Student Training and Athletic Rehabilitation), a sports medicine course whose instructor brought in speakers and set up internships for his students with physicians and other health care professionals long before SCOPE was introduced to Central Valley. Students in this class can work after-school as student athletic trainers. During the site visit, a physical therapist, only a few years older than the students, spoke to the class about his career, his college experience, how competitive the competition was for training, and the rigor of the national exam. This instructor credits SCOPE with having made people in the community more willing to contribute to the school, and so widened the range of resources he can tap.

Some students have had job shadowing experiences, spending one day at a workplace observing, for example, a marketing analyst at work, exposing the student to a realistic snapshot of that occupation. The community coordinator is determined that the career directions students seek not be limited by geography, and has found job shadowing opportunities for students in Seattle, Boise, and other places in the Pacific Northwest, as well as in Spokane.

Ultimately, the goal of SCOPE is to develop more comprehensive work-based learning opportunities, including work placements in the community, however. A prototype for this effort is a partnership among Goodwill Industries, Inc., ALSC Architects (a Spokane architectural design company), and the instructor of a CVHS course in design technology. Seven CVHS students, three working alone and the others in pairs, created proposed designs for the mobile attended stations used by Goodwill, designs that the architect involved described as "ready to hand to a builder." They made formal presentations of their design to the monthly meeting of Goodwill's board of directors, articulating why their design best met the needs of Goodwill. As the students seemed well aware, this was not a make-work project: the organization had a real need, and their proposals were a real attempt to meet that need, and as such, taken seriously by the board. The next step would be a cost analysis to identify which model was the most cost-effective. The same instructor arranged a three-month project with the Olivetti company the previous fall (1993) to design a mounting base for a new digital case register Olivetti was designing for McDonalds.

The community coordinator has also strengthened ties between the school and the Boy Scouts of America's Explorers Program, which is designed to introduce young women and men to careers. For example, some students have ridden with police officers on patrol. Others have worked alongside a veterinarian at the zoo. Other fields include fire fighting, aviation, medicine, and marine biology. The Explorers is also a source of classroom speakers.

Another project in the works at the time of the AED/NIWL site visit involved several organizations. The Spokane County Off-Road Vehicle Association wanted to build a vehicle prototype. They had the design and resources, but needed workers to assemble the car. The concept for the project would involve students in meetings with AC Delco Battery and Goodyear, as well as work on the project, expected to take twelve to fourteen months. The association had also committed to sponsor students to tour with the prototype around the northwest.

Another commitment made by the school is to find opportunities for any student seriously interested in a career, even if she is the only student interested. Thus one student studied marine biology in Hawaii for credit through the Explorer program. For another student, very seriously interested in agriculture, the community coordinator arranged an internship with a local farmer for which the student will earn credit. Another student spent five hours a week, earning credit, unpaid, in a restaurant, learning the business aspects. The coordinator was trying to arrange credit for students who would help construct shelters at the Spokane zoo.

Although the goal is to place students in the community whenever possible, the school is also exploring ways to bring the community into the school. Students already operate the campus snack shop, open during lunch periods, and are responsible for ordering supplies, ensuring adequate staffing, and seeing that the inventory meets student needs. The school staff have a much bolder vision of the kind of businesses that could operate on campus, including a bank, a radio station, travel agency, popular food outlets (McDonalds, Pizza Hut), even a retail store like J.C. Penney. All of these would be linked with classes and provide real entrepreneurial experience to students.

At the time of the AED/NIWL site visit, a study group of teachers drawn from both high schools in the district was meeting on the issue of replacing their standard six-period day with block scheduling. This step would give the schools much more freedom for making community placements.

STUDENT OUTCOMES

> *What it is to me, is to prepare for my tomorrow today.*
> student.

The first class of students to experience the SCOPE program will graduate in 1995. Obviously, the long-term impact of SCOPE on their career and educational choices is unknown.

A self-evaluation of SCOPE had recently begun at the time of the AED/NIWL site visit. With the same state grant that enabled the school to hire its community coordinator, they had begun working with the Northwest Regional Education Laboratory (NWREL) to design an evaluation. A team of CVHS path leaders had begun the process of developing questions for NWREL review, which they hoped would help them understand difficulties their students were having.

Those involved with the program at Central Valley High report that SCOPE has had an impact on both the curriculum and on the career awareness of the school's students. In many classes, SCOPE activities consist of an occasional speaker or special assignment rather than any fundamental curricular change, but even these activities, of course, represent more attention to career planning than most high school classes provide. In a few cases, where teachers have become genuinely convinced of the value of SCOPE, they have infused the curriculum with new material and new approaches.

Students at Central Valley appear generally knowledgeable about SCOPE and the meaning of the career planning activities through which they have gone. They seek out the community coordinator to find placements in occupational areas of interest. They can be found in the guidance office, making use of the career terminals to research occupations and training. They seem to think of career experience as something that can happen in high school, rather than something to be postponed to an indefinite future.

SUCCESS AND REPLICATION

> *Life is a risk: You can't steal second and keep your foot on first.*
> Administrator

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the SCOPE initiative, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

I. System of Career Planning

> *Any school, to make the program work, must be integrative, not set up a parallel system to the curriculum. It's being educated, not just being job ready. It's not either/or; it's vocademics. It's not side by side, but holistic.*
> Administrator

The adoption of SCOPE brought a system of career guidance into Central Valley High School, which, because of its inherent reliance on contextual learning approaches, has begun to transform not only the guidance office and its counseling processes, but classroom curriculum, pedagogy, and student scheduling as well.

Factors contributing to the success of SCOPE as a system, according to those involved include:

- breadth and comprehensiveness of its vision
- soundness of career guidance system adopted
- a school setting untroubled by major urban issues

Barriers to its implementation, according to those involved, include:

- resistance from some teachers, especially to the career infusion activities
- students in classes whose teachers are less successful in their infusion may miss much of the benefit
- time and commitment required to incorporate SCOPE into curriculum and lesson planning
- traditional school day scheduling

II. Leadership from Administration and Counseling Staff

> *Let's say yes, rather than no, to change.*
> Administrator

The idea for SCOPE began with two administrators and a lead counselor who discovered a similar program in a California community. Their leadership appears to have been crucial in the first couple of years of implementation.

Factors contributing to the success of their leadership, according to those involved:

- insistence upon the necessity of change and making SCOPE a priority, publicly and continually
- cultivating the engagement and leadership of teachers, deliberately wooing the skeptical among some of the stronger instructors
- teamwork among administrative and counseling staff members

Barriers to effective leadership, according to those involved, include:

- resistance from some on the staff
- burnout

III. Hiring of a Coordinator

The implementation of SCOPE began a year before the hiring of the community coordinator. Although it required extra effort from the counseling staff and administrators, the career planning system could be implemented by existing staff. A few teachers successfully reached into the community to find business representatives interested in cooperating to develop career-related activities and placements for students. However, a comprehensive and ongoing relationship with the community required the school to hire someone to carry out these responsibilities.

Factors in the success of the coordinator role, according to those involved:

- hiring an individual with extensive business experience and connections

- hiring an individual with a history of involvement with education and a commitment to student development
- hiring a visionary and creative thinker

Barriers to the success of this position include:

- the necessity for securing external monies to fund the position
- the unusual combination of qualities needed

IV. Instructional Leadership

In the staff lounge you'll hear people talking about ideas now, not complaining.
Guidance counselor

The implementation of SCOPE activities in the classroom depends primarily upon the engagement of teachers. It is possible for teachers to implement the five mandated SCOPE activities without sincerely attempting to change the curriculum. And until the hiring of the community coordinator, six months before the AED/NIWL site visit, workplace learning opportunities for students were largely dependent on the initiative of teachers.

Factors contributing to the success of instructional leadership, according to those involved, include:

- instructors inclined to the principles of contextual learning reflected in SCOPE program
- career path leaders who have sought to engage other teachers in the SCOPE process
- an administration that sought to win the engagement of instructors

Barriers to the success of instructional leadership include:

- time required to redesign curriculum and make community contacts
- lack of inservice training

V. Counseling Staff Leadership

We no longer have our students learn a career in a week: we don't think that way. It's exciting when students come in and say we want to change our career path, and access the system themselves.
Guidance counselor

The counseling staff discovered the model for the SCOPE program and assumed primary leadership of its initial development at Central Valley.

According to those involved, factors in the success of the counseling staff's leadership include:

- vision and dedication to the implementation of SCOPE
- staff's degree of expertise in the field of career planning

Barriers include:

- difficulty of balancing regular responsibilities with SCOPE implementation role

VI. Relationships with State Government

Central Valley High School has built and sustained relationships with legislators and with administrators in the state capitol. This has positioned the school to learn about funding opportunities and to influence legislation and regulations affecting school-to-work transition.

Factors contributing to the success of Central Valley's relationships with government officials, according to those involved, include:

- the high school's willingness to testify and ability to provide an example of the benefits of school-to-work transition efforts
- the interest of state legislators and administrators to visit Central Valley and talk with its representatives

Barriers, according to those involved, include:

- resistance of the higher education state establishment to change

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

THE YOUTH TRANSITION PROGRAM
YTP
CASE STUDY REPORT

Prepared by:

Richard L. Horne and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited the state of Oregon the week of February 28 - March 3, 1994, to study the **Youth Transition Program (the YTP)**. The YTP began in 1990 to address school-to-work transition issues for students with disabilities throughout the state. We were particularly interested in two issues. First, we were interested to learn how a statewide school-to-work system operates. Second, we were interested in how the program supported the school-to-work transition of students with disabilities.

ACKNOWLEDGMENTS

It is not possible to thank all of the people who contributed to the AED/NIWL team's extensive research in Oregon, particularly in the Springfield-Eugene area. We met with more than thirty students and observed many others in career assessment, vocational training, and community-based work settings. In addition, we interviewed several parents and other family members, and leaders at the state level. We toured many offices, training facilities, and places of employment. We also met with school administrators, teachers, and guidance counselors; vocational evaluators and educators; non-profit service organizations and private employers; university personnel; Oregon Vocational Rehabilitation Division (OVRD) and Department of Education (ODE) staff; transition specialists; instructors from Lane Community College; and representatives from other public agencies that support disabled and at-risk youth.

However, this report could not have been written without the assistance of Dr. Michael Benz and Lauren Lindstrom, from the University of Oregon (UO); Mike Johnson, of the Springfield YTP; and Roma Powis, of the Eugene YTP. They all gave generously of their time to organize the site visit, develop informative materials, meet with the researchers, and drive us from place to place. We would also like to express our appreciation of the insight provided by Peter Fitzgerald, Deb Johnson, and Andy Halpern at UO.

The local YTP sites expended a great deal of effort in opening up their programs and sites to us. We conducted numerous interviews and focus groups, and visited many programs and job sites throughout the area. To Mike Johnson, Roma Powis, and Jerri Dickinson, the YTP Teacher Coordinators for Springfield, Eugene, and Cottage Grove, we

will always be thankful for your availability and openness. To the YTP staff, Transition Specialists and Vocational Rehabilitation Counselors, we appreciate your time in orienting us to the program and for assisting the site visit team out in the field. We also thank the non-YTP staff from Springfield and Eugene who shared their perspective on the program, as well as the private employers who provided the research team with valuable time and access.

We would also like to acknowledge the Springfield-Eugene administrators: Linda Carnine, Director of Special Education for Springfield; Don Shutt, Assistant Superintendent for Springfield; and Goeff Webb, Springfield OVRD Branch Manager; David Piercy, Assistant Superintendent for Eugene; Walter Woods, Director of Special Education for Eugene; and Randy Miller, Eugene OVRD Branch Manager.

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INTRODUCTION

This case study discusses school-to-work transition for students with disabilities through the **Youth Transition Program (YTP)**, a statewide collaborative effort including 26 communities throughout the state of Oregon[1]. The YTP began in 1990 as a cooperative effort between the Oregon Department of Education (ODE), the Oregon Vocational Rehabilitation Division (OVRD), the University of Oregon (UO), and the local public school systems.

The YTP developed with the basic goal of placing youth with disabilities in meaningful competitive employment or career-related postsecondary training. The YTP serves disabled youth beginning in their completion year of high school and continues for two years of follow-up services, depending upon the student's needs. The YTP's services are provided jointly by school and vocational rehabilitation staff and include: paid job training with on-site monitoring and support; job-related instruction in academic, vocational, independent living, and personal/social content areas; individualized transition planning; placement in a job upon leaving school; and follow-up support.

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[1] Some information contained in this report was adapted from materials provided by the University of Oregon and local YTP sites. We gratefully acknowledge the contributions of the following materials:

Benz, M.; Lindstrom L., & Johnson, D. (February, 1994). *Overview of Youth Transition Program (YTP).* Paper prepared for site visit by the National Institute for Work and Learning. Authors.

Benz, M.; Lindstrom, L., & Johnson, M. (1993). *Youth transition program: Procedures manual.* Eugene, OR: University of Oregon.

NA. *Youth transition program: Program impact summary information.* Eugene, OR: University of Oregon, Secondary Special Education and Transition Program.

The YTP serves disabled youth who are eligible for vocational rehabilitation services and who are able to become competitively employed without long-term support. This includes students who: (1) are on track to complete school, but need the YTP's services to achieve post-school vocational goals; (2) are still in school, but at great risk of dropping out; and (3) have already dropped out of school, and are unemployed or underemployed. The YTP started as a pilot project with 7 sites. By 1993, 13 communities were participating as YTP sites. At the time of the AED/NIWL site visit, 26 communities were YTP sites, including 24 of 26 vocational rehabilitation field offices and half of all high school districts in the state. Since 1990, through a combination of state and federal funding, approximately 8.5 million dollars has been allocated to support the YTP's activities through 1995. Statewide, over 1,500 students with disabilities will receive the YTP's services between 1990 and 1995.

This report seeks to describe a statewide school-to-work transition effort; thus it presents an overview of the program from the state perspective, while using information gathered from site visits to illustrate how the program is locally implemented. The report comprises seven major sections. Following this introduction, the report briefly describes the history of the YTP, including an overview of transition initiatives in the state of Oregon, and the agencies that encompass the YTP's collaborative team model. The third section profiles the systems that support the YTP: systems of staffing, governance, strategic planning, training and technical assistance, evaluation, and so on. The focus of the fourth section is on school-to-work transition activities based primarily in the schools, including assessment and planning. The fifth section profiles workplace-based programming, including the YTP's off-site occupational programs, Job Clubs, and independent living programs. The sixth section describes YTP's follow-up services and evaluation procedures, and discusses the YTP's impact on student outcomes. The case study report concludes by examining factors that appear to contribute to the YTP's success, and possible barriers to their replication.

This case study report is based on the work of AED/NIWL's research team. Two researchers visited sites in Springfield and Eugene, Oregon, and conducted a focus group in Salem during the week of February 28 - March 3, 1994. They interviewed instructional and administrative staff, local YTP program staff, and university collaborators; visited with other public agencies and non-profit organizations; conducted interviews with employers, students, and family members; observed classes and work placements in the community; and interviewed state leaders.

CONTEXT

"The YTP is more than a job --it's a way of life."
Teacher

Our site visit to Oregon is a sharp contrast to the other 13 site visits conducted by the AED/NIWL research teams. Our visit focused on a statewide school-to-work transition effort, while the others investigated local models. The **Youth Transition Program (YTP)** is one result of an evolutionary process across the state of Oregon intended to redesign and reform its education and workforce development system.

Statewide Education and Workforce Reform Initiatives

In 1986, the Oregon Futures Commission published *Emerging Trends 2010*, stressing the need for a comprehensive plan for the state's future and laying the foundation for what was to become Oregon's vision of a comprehensive and coordinated human resources investment system. In 1989, the Oregon legislature created the Progress Board to carry out the strategic plan, *Oregon Shines*, and to develop a series of benchmarks. By 1991, the Progress Board released the first edition of the *Oregon Benchmarks* and was directed by the legislature to report on these measures of success and to review and update the benchmarks every two years. In 1992, a governor's task force recommended that the benchmarks be integrated as goals for state agencies, and that planning, budgeting, and compensation systems be directed toward these goals. The benchmarks place a priority on measuring results rather than efforts. These results are described by 272 benchmarks that are measured in three broad categories including people, quality of life, and the economy. Measures include literacy rates, dropout rates, math skills, crime rates, per capita income, air and water quality, etc. These benchmarks are now evolving into locally-based outcome measures. By looking at the fundamental outcomes, the state believes it can better assess needs, regardless of sector, level of government, or institution. By focusing on community-wide results, the state believes it can better determine what partnerships or new initiatives are needed to help achieve them.

The focus of *Oregon's Human Resource Investment System* is on the life-cycle of Oregonians rather than discrete programs. The state views the "life cycle" as early childhood, the school years, school-to-work, and adult living, as well as jobs and income. *Oregon's Education Reform Initiative* and *Workforce Reform* agenda encompass the strategies to implement and achieve this system.

The state's *Education Reform for the 21st Century* targets all children. The cornerstone is early childhood development and the capstone is professional-technical educational development. The reform agenda for the state includes building new standards. Beginning in 1997, a *Certificate of Initial Mastery* will be awarded at the 10th grade or age 16, to all students who demonstrate mastery of specific standards. A *Certificate of Advanced Mastery*, awarded at the completion of the 12th grade or age 18, will focus on one of six occupational cluster areas: Arts and Communications, Natural Resources, Human Resources, Business and Management, Health Services, and Industrial Technology. These reforms are targeted to all students, including students who are college-bound and those with disabilities.

Oregon's *Workforce Quality Council* was created to develop policy among the state's education, workforce, and placement programs. While this public/private board does not administer direct programs, it does set overarching policy for these programs to focus investment. Through this board and other efforts, the state hopes to develop a coordinated approach to administering its federal and state programs centered around the benchmarks. For example, the ten agencies that deliver most of the state's education and workforce training programs are required to focus their policy and budget work on top priority benchmarks (e.g., advancing students in professional and technical education, increasing literacy, upgrading skills of the current workforce, etc.). Consequently, the state is trying, with some success, to develop integrated planning formats for federally-funded programs such as JTPA, JOBS, Carl Perkins, and Adult Literacy, each of which have different timelines, data collection requirements, funding requirements, etc.

Another result of the *Workforce Quality Council* is the requirement that the state have local boards, called *Regional Workforce Quality Committees*. These committees are required to measure community progress, where the community is going, and plan for reaching its goals. The state legislature funded an initial competitive grant process to help communities reach one of three benchmarks that they choose to focus on: increase the professional-technical experience for students, increase services to dislocated workers, or upgrade the skills of people currently in the workforce. The YTP was one of nine projects funded in the area of professional-technical experience for students. This endeavor is a part of a $125 million *Workforce Investment Portfolio* that includes incentives for targeted training for the current workforce, expansion of thirteen growth industries in the state, as well as some educational reform, and community college and postsecondary education capacity-building.

Statewide School-to-Work Transition Initiatives for Students with Disabilities

Transition programs for high school students with disabilities have emerged in Oregon over the past twenty years. These programs have developed in response to national policy to enhance postschool outcomes for youth with disabilities, including the passage and subsequent amendments to two federal laws, the *Individuals with Disabilities Education Act* and the *Vocational Rehabilitation Act*. At the center of these federal programs are two themes: (1) consumer-driven, individualized program planning, and (2) the recognition that state and local education agencies need to develop collaborative activities with Vocational Rehabilitation to ease the school-to-work transition of disabled youth.

A second factor that has driven the development of transition programs for students with disabilities in the state is the lack of vocational and transition services in rural areas. In Oregon, these areas represent of unique set of circumstances that make it very difficult to provide adequate services. These circumstances include a depressed economy, which offers fewer job opportunities both for the general population and in particular for students with disabilities; fewer adult services (e.g., rehabilitation, employment, adult education, etc.) in rural areas, and the few offices available are often expected to serve multi-regional needs; geographic barriers to disabled students, who may have to travel great distances to go to school or job opportunities; and lack of public transportation.

Thus, transition programs have focused on meeting federal mandates and serving students with disabilities throughout the vast area of the state. Collaboration between education and vocational rehabilitation has also been a central theme. Transition programs have been designed to ensure that every student with a disability will be well-situated upon leaving high school, having learned the self-determination skills necessary to make important life decisions. Several state-wide initiatives have evolved over the years, including: capacity building, innovative program development, tracking student outcomes, and training and technical assistance.

Capacity building has been addressed through a network of *Community Transition Teams* that began in 1986. These teams exist in local communities statewide and work on a variety of issues and projects to improve transition programs. Local schools and vocational rehabilitation systems are represented on the teams. These teams were instrumental in convincing the legislature to create the YTP.

With state funding, the YTP was designed to encourage and assist state and local education agencies to collaborate with vocational rehabilitation agencies. Support was also provided to the University of Oregon's Secondary Special Education and Transition Program to facilitate YTP's activities, development, and evaluation. This effort produced an extensive follow-along system for tracking transition outcomes and using the information to assist in local efforts was begun, and a training and technical assistance system to implement the YTP in local communities.

These initial initiatives were augmented in 1992 with the funding of the *Oregon Transition Systems Change Project*. The Systems Change Project is one of over 30 federally-funded projects created with funds appropriated as a result of the 1990 amendments to the *Individuals with Disabilities Education Act (IDEA)* and operated under cooperative agreements issued by the U.S. Department of Education's Office of Special Education Programs.

As this history suggests, Oregon's approach to school-to-work transition involves three elements: (1) systemic change, rather than traditional categorical or discretionary approaches to managing separate programs; (2) networking; and (3) interagency collaboration. The state views this approach as one that looks at managing the larger school-to-work system well and using federal and state resources as venture capital to leverage that systemic change.

YTP Demographics

Oregon is 400 by 300 miles, and its geography varies greatly. Half of the population of Oregon is around Portland, and a quarter more are in the valley between Eugene and Portland. Because the developers of the YTP did not dictate what constitutes a "site;" the composition of the YTP sites reflects the variation in local situations, with projects ranging from a single school district serving several high schools, educational service districts serving rural/nonrural school districts, and multi-county consortia of several (rural) school districts. The concept of the YTP being a statewide program has also resulted in a concentrated effort to develop proposals from rural sites to help include sites representing the diversity of Oregon.

The YTP served 483 students through 1993. With the availability of funds through 1995, an additional 1,000 students will be served. Most of YTP participants are male (61%), and the average age is 18 years. Students with learning disabilities make up the largest portion of the population served (58%), although other disability categories (such as emotional disturbance and a range of mental retardation) are also included in the target group. Students in the YTP encounter a variety of barriers associated with negative school outcomes before they enter the program. Thirty percent of the students in the YTP were identified as "at-risk," and 16% have a history of absenteeism and suspension. Four percent of the participants are school dropouts. Most of the students (45%) have had no prior job experience and 25% are reported to be unable to maintain employment. Poor independent living and social skills are also reported among the participants of the YTP. Finally, some of the YTP's participants are reported to experience family and personal barriers, such as unstable living situations (35%), incarceration (4%), substance abuse (3%), and teenage pregnancy (2%).

PROFILE: THE SYSTEM THAT SUPPORT TRANSITION

"The YTP caused long-overdue systems change in the school district."
Teacher, Thurston High School

The design of the **Youth Transition Program** is an excellent example of the translation of research knowledge to practice. The focus of the YTP is to improve the delivery of services to students with disabilities and to stimulate systems change. The interagency model of the YTP includes three components: (1) a state-level administrative organization that supports ongoing collaboration; (2) an in-school component, with the school and vocational rehabilitation staff providing services to students while they are still in school; and (3) a post-school component, where collaboration results in providing students with transition to a variety of postsecondary training and employment opportunities and follow-up services. Each of the YTP's components was developed on the basis of published research studies, including findings from secondary special education programs, transition programs, and research documenting systems change in education. These research studies are discussed in a manual, *The Youth Transition Program: Procedures Manual* (1993), available from the University of Oregon.

The YTP was collaboratively developed and is therefore co-managed at the state level by the Oregon Vocational Rehabilitation Division (OVRD), Oregon Department of Education (ODE), and the University of Oregon (UO). The funding of the YTP reflects the collaborative nature and management of the program. Participating school districts support the salary and fringe benefits of the teacher who is assigned to coordinate the YTP at the local level. The University of Oregon is responsible for materials development, training, and technical assistance provided to the local YTP sites, as well as for the program's evaluation activities. The actual provision of services is supported through the OVRD, which awards contracts to local school districts. This funding offers local districts the opportunity to develop a YTP through a competitive RFP process. Through this process, school districts and Educational Service Districts apply for two-year grants. These grants are available on a continuation basis as schools restructure and refine traditional ways of providing services to students with disabilities.

The systemwide structure and support services of YTP include a process that begins with team members screening potential students and referring them for vocational rehabilitation (VR) services. Students must be eligible for VR in order to participate in the YTP. As students achieve VR eligibility, the YTP's staff conduct additional evaluation of the student's skills and abilities and develop a transition plan, which serves as the basis for planning and implementing services over the course of the program. Students are then placed in paid community employment, where they receive training and monitoring from a transition specialist. At the same time, students participate in classroom instruction in academic, vocational, independent living, and personal/social skills to supplement on-the-job training. Students may also receive support services designed to assist them in meeting their transition goals. Once students complete the program, post-school placement is provided in either a competitive job (i.e., full- or part-time paid employment), a postsecondary training program (i.e., multiple options, including college, trade school, etc.), or some combination of the two. In addition, students receive follow-up services from the YTP's staff for at least two years after they leave the program.

In each participating school district, the YTP's services are provided by a team consisting of a teacher who serves as the Teacher Coordinator, one or more Transition Specialists, and a Vocational Rehabilitation Counselor from the local VR office. In general, the responsibilities of the Teacher Coordinator and Transition Specialists include: recruiting students; assessing students; coordinating individualized plans (i.e., Individualized Education Plans and Individualized Written Rehabilitation Plans); developing job placements; and supervising students on job sites. Responsibilities of the local VR Counselor include: establishing student eligibility for the program; coordinating individualized plans; providing or purchasing support services not provided by the school; and providing post-school placements in employment or postsecondary training. Since the YTP structure is new for local program participants, training and technical assistance is an essential element of the program's design. Training is provided by the University of Oregon in collaboration with the

YTP's other partners. Training includes statewide and regional workshops, telephone consultation, and on-site technical assistance.

> *"It's all about empowerment. In the YTP they give you options and then it's up to you --it's choice and about getting control of your life and staying with it."*
> A YTP Student

Another critical element of the YTP that supports transition is the program's person-centered philosophy. The YTP seeks to empower students by encouraging self-determination and active involvement throughout the YTP process. Students and parents interviewed by the AED/NIWL team frequently commented how the YTP supports a high degree of involvement and responsibility for students in goal-setting and decision-making.

PROFILE: LEARNING IN SCHOOLS

> *"The YTP really convinced me to that school's important. They work around what you want to do and link that to learning."*
> A YTP Student

Screening and assessment, individualized transition planning, and instruction are the central components of the YTP's school-based learning activities.

The YTP screening and referral process provides opportunities for schools and VR to collaborate during the eligibility determination process. This collaboration results in several benefits to staff and participants. First, through the process, students and parents receive information about the YTP and VR, so they can make informed decisions about their participation. This diverse screening information, including school records, information on functional limitations, existing evaluation and assessment data, and work history information, enables the YTP team, including students and families, to make joint decisions about the benefits of participation in the program. Since schools and VR work together in the process, both participants and administrators have noted improvements in the streamlining of school and VR eligibility and determination process.

The YTP's individualized transition planning process helps students and parents prepare for the transition from school to the community. Planning is student-driven, focusing on student and family preferences and interests. Student's skill levels are also considered, and current assessment data is used to guide the development of specific goals and objectives. In addition, the planning process involves collaboration with adult agencies, such as vocational rehabilitation. Finally, the transition plan focuses on post-school outcomes, such as employment, continuing education, and independent living.

The instructional component of the YTP has several features in common with the screening and transition planning processes. Instructional activities are designed around the needs and preferences of individual students in the program. Most of the instructional activities emphasize self-determination skills, by providing students with opportunities to learn by taking risks and making choices.

The YTP has no pre-set curriculum or approach. The YTP sites have developed a series of different instructional options: (1) a YTP class; (2) a mentorship program; (3) a job club; and (4) an independent living program. Because planning is student-driven, instruction is not dictated by the place where it occurs, but through avenues which will assure that students learn the vocational, social, and independent living skills necessary for success in the community. For example, Stayton's YTP has a YTP class; Beaverton's YTP has some instructional programs at the community college; several sites have Job Clubs; Redmond's YTP uses mentoring programs; and the Eugene/Springfield YTPs have collaborated to develop an independent living program.

The YTP classes have been developed to provide regular, structured instruction in the skills needed to live and work in the community. Several local sites have developed YTP classes. These classes are offered in the high school: some meet daily, others weekly. The classes offer vocational, personal/social, and independent living skills instruction.

Mentorship programs are designed to help students build self-esteem and to provide a variety of experiences and opportunities within workplaces in the community. This program matches individual students with mentors. The student and their mentor meet weekly in the mentor's place of employment. In some cases, students earn credit for their participation in the program.

The YTP's Job Club is a support group for students. Job Club meetings focus on information-sharing, peer counseling, goal-setting, and problem-solving. Job Clubs are coordinated by the YTP's Teacher Coordinators and Transition Specialists in collaboration with VR Counselors. Meetings are typically held in community settings, such as a VR office or community college classroom, on a weekly or bi-weekly basis.

Independent living programs are designed to provide hands-on learning experiences that prepare students to live on their own. The Eugene/Springfield YTPs have collaborated with VR staff to develop an independent living program that is housed in an off-campus apartment. However, these are not overnight programs. The independent living program is closely supervised and coordinated by the YTP Transition Specialists. Several of Eugene's YTP staff have office space in one room of the apartment. Students come to the apartment once or twice a week in the afternoon or early evening to meet with other students and practice independent living skills. In Eugene/Springfield, Job Clubs are also conducted in the apartment. The apartment serves as a home-base for many of the YTP students. In fact, the entire community becomes a classroom. In this independent living program, students may be learning the following skills: shopping, cooking, nutrition, household maintenance, banking, budgeting, personal planning, time management, leisure activities, and interpersonal skills.

PROFILE: LEARNING IN WORKPLACES

> *"Employers speak for the program. They take ownership. We truly see a partnership."*
> Vocational Rehabilitation Counselor

The YTP's employment component reflects the close collaboration that exists between employers and school and VR staff in order to provide job placement and training for students with disabilities. YTP staff members also work closely with employers and involve them in various aspects of the YTP. YTP students receive instruction and support they need from staff and employers to obtain and maintain paid, competitive employment that matches their interests and skills. There are four features to this component: employer relationships, job placement, job maintenance, and follow-up services.

Employer Relationships

> *"In this program, we see students being instilled with a work ethic. We are also better linked to the schools and have input into getting the types of employees we need. YTP has changed a lot of students. Some started out with basic skills and then moved up to other jobs."*
>
> Employer

Employers are crucial collaborators in the YTP. In most of the sites we visited, employers were enthusiastic about the YTP. One employer, after placing several of Springfield's YTP students in his business, added a training shift to the work schedule. Another employer in Eugene's YTP provided a link between work and learning by creating a career ladder from entry level jobs into the Certified Nurse's Assistant program at the community college for YTP students. Finally, employers commented on the critical role of the Transition Specialists and the support they provide, on the job site, to students, coworkers, and employers.

The YTP staff receive training and technical assistance in developing a plan for recruiting employers and for supporting them once students are placed. A variety of support services are available to employers that may include liaison between the YTP program and employers, job-related student counseling, on-the-job training, job coaching, supported employment, monitoring, problem-solving, training coworkers, monitoring students on the job, evaluation assistance, and many other types of support.

Job Placement

> *"The YTP is more than just getting a job. This is a way of making long-range plans."*
>
> A YTP student

The goal of job placement is to assist students in obtaining employer-paid job opportunities while they are still in school. The YTP staff assist students in conducting job searches by helping them to identify their skills and interests, and by teaching them the skills they need to obtain and maintain employment. The YTP staff analyze work sites to determine both the context of the environment and the job requirements. This information is used to match each student's interests and characteristics. In addition, since the program also has a post-school component, the YTP staff evaluate potential job placements with respect to upward mobility, further training, and benefits. Thus students are involved in a training program that provides a menu of activities and multiple options, such as mentorships, job shadowing, and paid employment experiences.

The AED/NIWL team visited numerous employers in the area. Each of the YTPs use various methods and activities to place students in jobs. For example, in Cottage Grove, YTP staff work on integrating different agencies, including work experience, in-school JTPA, and VR. The Cottage Grove Transition Specialist is well connected in the mostly rural area, and has access to multiple job sites.

Responding to some of the economic realities in their area, and barriers to gaining employment for disabled youth, YTP staff from the Eugene and Springfield sites developed some unique alternatives to more traditional job placement methods. These YTPs have collaborated to create a Temporary Employment Service agency called BEST. This program is open to all students in the school system, and was created as a "employee leasing" program, rather than a traditional temporary employment service. BEST works within the school district by matching entry-level positions to vocational training and employment experience for students. Businesses actually lease students as a training and paid employment opportunity. Another unique element of BEST is that the school system provides liability insurance to cover students while on the job.

Another example of entrepreneurship is the Eugene YTP's "Coffee Cart" that operates from Sheldon High School. The Coffee Cart serves gourmet coffee drinks, and the menu is tailored to the school community. The Coffee Cart provides employment and instruction in a more structured setting for students not yet prepared for job placement in the community. While working on the Coffee Cart, students learn about business operations, work on academic skills, and experience the success of working, while preparing for placement in community-based businesses. Although the students are responsible for actually running the business, the Coffee Cart has a full-time Coordinator who assists them with instruction, marketing, and supervision. At the time of the AED/NIWL visit, the business was becoming self-sustaining. There are also plans to expanded the Coffee Cart idea to the area's court house and possibly to larger businesses in the future.

Job Maintenance

> *"I sleep better at night knowing the Transition Specialist is there. He evaluates students' abilities and decides where to put them next. The skill levels of the students are really improving, and the next step is to have students supervising students."*
> Employer

Job training and monitoring includes on-the-job training as well as monitoring and follow-up services that help students maintain success on the job. For most students, job training takes place in the work environment during working hours. Transition Specialists work intensively with students for the first 3-4 weeks on the job and then provide monitoring and support services on a regular basis. The goal of job training is to help students become independent, so that they are able to perform their job with only minimal support from YTP's Transition Specialist. Through the process that begins with preparing students for job placement and continues with on-the-job training, the YTP Transition Specialists are able to gradually reduce the level of support and supervision given to students. By using monthly progress reports completed by employers, and regular contact with students, Transition Specialists are able to monitor students' progress and provide follow-up support as necessary.

Follow-up Services

The YTP's follow-up services are provided to all participants. These services begin when students complete their program and continue for up to two years. Follow-up services include: (1) conducting interviews to document progress and any issues or problems experienced by participants during transition years, and (2) providing support services (e.g., counseling, referral, direct assistance, etc.) as necessary. Information collected during this period is sent to the University of Oregon for analysis. This information has been used to document the YTP's impact and to make changes in the operation of the YTP.

STUDENT OUTCOMES

> *"It's a prevention program. So, if I don't see the kids enter the VR system down the line, then it's a long-term impact."*
> Vocational Rehabilitation Counselor.

Unlike most school systems and programs, YTP has carried out a comprehensive evaluation effort to document the impact of the program on specific student outcomes and systems change. Through the YTP's management structure and the University of Oregon, data are collected from each site on a variety of demographic and programmatic factors (e.g., student demographic data, job placements, training efforts, community outreach activities, improvements in coordination, etc.). In addition, follow-up support is an essential element of the YTP. The data collected along the two-year follow-up period are analyzed several ways. First, the YTP's outcome data are analyzed relative to the outcomes of comparison groups, including a statewide sample of students with disabilities who exit school, a sample of non-YTP VR clients in the state, and a nationwide sample from the *National Longitudinal Transition Study (NLTS)* (Wagner, Newman, D'Amico, Jay, Butler-Walin, Marder, & Cox, 1991)[2]. Second, the YTP examines student outcomes separately for two groups of program participants: (1) rural versus non-rural YTP participants; and (2) YTP students identified as "at-risk" compared to those not considered to be "at-risk." Student outcomes for the 1991-1993 project period are briefly summarized below.

When the YTP staff compared employment outcomes for students' highest paying jobs within two years of leaving school, the YTP students:

- earned higher hourly wages that the students in the Oregon disability sample ($5.69/hour vs. $5.31/hour).
- earned higher weekly wages ($181/week vs. $157/week).
- were more likely to still be on the job (70% vs. 56%).
- were less likely to have lost a job for negative reasons (27% vs. 40%).

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[2] Wagner, M., Newman, L., D'Amico, R., Jay, E.D., Butler-Walin, P., Marder, C., & Cox R. (1991). *Youth with disabilities: How are they doing? The first comprehensive report from the National Longitudinal Transition Study of Special Education Students.* Menlo Park, CA: SRI International. (ERIC Document Reproduction Service No. ED 341 228).

When the YTP/VR clients were compared to VR clients of similar ages, types, and disabilities, the YTP clients were more likely to:

- be determined eligible for VR services (76% vs. 52%).
- remain in the rehabilitation process (57% vs. 27%).
- earn higher weekly wages at closure ($177/week vs. $143/week).

The YTP examined student outcomes compared to a national sample drawn from the NLTS in the areas of employment and productive engagement. NLTS defines productive engagement as students either working or participating in postsecondary activities. When the YTP students were compared to the national NLTS sample for the first two years out of school, the YTP students were:

- more likely to be competitively employed (67% vs. 46%).
- more likely to be employed full-time (39% vs. 25%).
- less likely to be unemployed (32% vs. 46%).
- more likely to be productively engaged (95% vs. 64%).

Another demonstration of the YTP's success is the fact that it appears to equally benefit students who are living in rural areas and non-rural areas, as well as at-risk students. Two year follow-up data indicate that YTP students from rural communities achieve comparable employment outcomes (i.e., rates for competitive full-time and part-time employment, unemployment) to those experienced by the YTP's participants from non-rural areas. For example, most students are competitively employed (71% rural vs. 64% non-rural). The YTP students identified as at-risk experienced equally positive employment and engagement (i.e., involved in work- or education-related activities outside of the home) outcomes during the first two years after leaving the program to those who were not considered at-risk. For example, 67% of the at-risk YTP participants were competitively employed after two years, compared to 68% of those not at-risk.

Interviews and focus groups with students indicated that through the YTP, they had gained a stronger sense of their own strengths and weaknesses. Many students described the specific work behaviors they developed, and most commented that the program helped them develop the perseverance skills necessary to find and keep a job. They also discussed a range of work attitudes (e.g., attendance, punctuality, appearance, self-control, communication skills, problem-solving skills, etc.) in a manner that revealed ownership of these important attitudes and sophistication in assessing the degree to which they had acquired them.

Students also seemed to have acquired an in-depth knowledge of the careers to which their YTP experience might lead them, and a real sense of what it would take, in terms of time, money, and education, to achieve their career goal. Students commented that the YTP was keeping them in school, encouraging them to return to school, and providing options for school completion. Many commented on how they had shifted career goals, felt comfortable leaving a job, explored various occupations, and tried things they never would have before.

Information collected from the YTP programs and interviews with YTP staff and non-YTP staff also demonstrates the changes that the program has brought about in organizations and systems. As documented through the 13 original YTP sites, the program has improved coordination and collaboration between schools and numerous agencies and groups, including vocational rehabilitation, community-based agencies, vocational education, and employers.

As previously discussed, the YTP has also developed and delivered an innovative and comprehensive school-to-work transition program for its target audience. Finally, the YTP has "touched" a significant number of students, school staff, or community members who have been exposed to the program.

SUCCESS AND REPLICATION

The primary purpose of the AED/NIWL study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the YTP with the intent of providing lessons learned and identifying best practices from which others may learn. The judgements that are offered reflect the self-assessments of local players, rather than the judgements of the visiting research team.

> *"We haven't had to fight and battle to have special education at the table. In other places, they're not included, but here we've learned lessons from special education. Oregon provides good examples of what people with disabilities can do."*
> Associate Superintendent, Oregon State Department of Education.

A number of elements appear to be critical success factors of the YTP.

1. Administrative Leadership

The YTP is a model for interagency collaboration and partnerships. This is reflected at the state and local levels. A consistent factor in the YTP is the quality of the program's leaders: their competence, commitment, vision, strategic thinking, knowledge of community, ability to collaborate and network, and political instincts.

Factors that contribute to the success of leadership, identified by those involved, include:

- state policy makers (i.e., state legislature, governors, agency leaders) support the program and provide leadership.
- leaders link the program to the larger state context of education and workforce reform and restructuring efforts.
- the quality of the programs leaders, as both managers and vision-setters.
- commitment to facilitating meaningful outcomes for students with disabilities.
- collaboration is supported through demonstrative actions. For example, the OVRD provides dedicated FTE to the YTP effort and federal VR funds are matched by local education agencies. Additional support is provided by collaborating institutions through training and technical assistance.
- coordination role at the local level through the leadership of a Teacher Coordinator.
- a documented system that mandates certain areas of support from leadership- the key is that the YTP demands "patterns of service" but allows for local flexibility to fulfill the mandate.
- comprehensive and ongoing training and technical assistance is provided.
- leadership values and supports extensive program evaluation activities.

Barriers to the success of leadership, identified by those involved in the sites visited, include:

- planning for possible changes in the state and local political climates that might influence the continuation of the program.
- difficulty in simultaneously planning and implementing the program's vision and systems continuously.
- translating the level of commitment from multiple state leaders into involvement of leaders at the local level.
- providing an ongoing learning process for all state/local leaders and ensuring perpetuation of the system by sharing knowledge and evaluation data.
- designing strategies to address the comfort level of all state/local leaders regarding the amount of time it takes to develop and implement the process, and to document its impact on student outcomes.

2. Cross-Sector Collaboration

At the local level, the YTP fosters collaboration across sectors that are critical to supporting students with disabilities in the transition process.

Factors that contribute to cross-sector collaboration, include:

- employers are active program participants.
- program funding is a collaborative effort between VR and education.
- program planning and implementation is coordinated across agencies and community placements.

- the role of Transition Specialist within each YTP creates a climate that supports and enhances collaboration among diverse stakeholders.
- active and responsive partnerships with business.

Barriers to the success of cross-section collaboration, identified by those involved in the sites visited, include:

- a formal connection between the YTP's staff and employers.
- a communication system between employers as a group or industry, such as a YTP Employer Advisory Group.
- a publicity and public relations plan for making more people aware of the program (e.g., teachers, employers, agencies, general community, etc.).
- partners have to work through the concept that the planning process is continual and takes a great deal of time.
- anticipating and resolving "turf" issues.
- designing and implementing procedures, such as waivers and flexibility, for local YTP programs to efficiently meet cumbersome regulations.

3. Multiple Options for the Work-based Learning Component

The YTP's cornerstone is that it seeks to provide opportunities for competitive, paid employment. In most cases, this goal is achieved by the students.

Factors that contribute to the success of the vocational component, include:

- individualized planning and service delivery that is student-centered.
- community involvement.
- developing alternative vocational activities, such as entrepreneurial efforts.

- offering unique programs, such as the Job Club.
- program's focus on post-school employment targets job placements that have growth potential (e.g., mentorships, career ladders, benefits, etc.).

Barriers to work-based learning, identified by those involved in the sites visited, include:

- avoiding the perception of the program being used as a "dumping ground."
- helping those involved in the YTP to understand the need to accord professional status to the newly-created position of Transition Specialist.
- some participants rely too much on their Transition Specialist's or Teacher Coordinator's advocacy, rather than learning to be on their own.

4. Situating Programs Off-Site

The YTP maximizes student outcomes by situating critical program elements in community-based settings. In this manner, students who have experienced school failure have markedly different experiences that reorient them in a positive direction to the world of work and learning.

Factors that contribute to the success of off-site programs, include:

- off-site programs motivate students and are viewed by them as an alternative.
- most YTPs operate as off-site programs, while maintaining offices throughout the community.
- off-site programs offer training in independent living skills in the context of the actual community.
- collaboration of multiple agencies to sustain off-site programs.

Barriers to off-site programs, identified by those involved, include:

- logistics in implementing and maintaining off-site programs.
- availability of transportation.
- difficulty in establishing off-site programs in rural areas.
- insurance liability.

5. Integration of Career Information and Guidance into the System

In describing the YTP's success, those involved commented again and again on the program's focus on individualized planning and self-determination. Students in the YTP are exposed to substantial opportunities to develop career and life goals through the supports build into the system.

Factors that contribute to the success of career information and guidance include:

- comprehensive screening and referral is provided.
- individualized planning, with significant student and family participation.
- interagency collaboration allows for the integration of career information and guidance throughout the statewide transition effort.
- peer support and counseling is provided through the Job Club.
- providing self-determination and flexibility--students are encouraged to strive towards their goals and program staff are flexible enough to implement alternatives that support goal attainment.

Barriers to career information and guidance, identified by those involved in the site visits included:

- providing students with access to the process at an earlier age or grade.

6. Serving a Wide Range of Students

The YTP has demonstrated its effectiveness with a diverse range students with disabilities. Although the YTP started as a program targeted to students with learning and behavioral disabilities, elements of the program have been expanded and adapted to students in the general education population, as demonstrated by the Cottage Grove and Redmond YTP sites.

Factors that contribute to the success of serving a wide range of students include:

- successful streamlining and coordination of systems and institutions already in place.
- person-centered services.
- developing self-determination in students with disabilities.
- many of the local YTPs are planning for or implementing activities designed to reach students between the ages of 14-16, as a way of supporting local education agencies to meet the new transition requirements of the IDEA.

Barriers to the YTP's success in serving a wider range of students, identified by those involved in the site visits included:

- serving students with more severe disabilities: Many of those involved believed that existing systems in place for this population, such as programs in the developmental disabilities arena, were meeting the needs of students with more significant disabilities; therefore, the YTP has not been tested in this area.
- the regulations that stipulate the ages of the students to be served by the YTP was also identified as a barrier.

- avoiding the stigma of disability, by involving non-disabled students, was identified as a difficulty.

7. Instructional Services

Individualized instruction is the key element of success or YTP in this area. Each student completes individualized assessment and receives an instructional program tailored to their needs.

Factors that contribute to the success of instructional services, identified by those involved, include:

- student-centered planning.
- alternatives are available for the delivery of instructional services.
- instructional support is provided by interagency staff.
- YTP staff provide training and technical assistance to local education staff in designing adaptations and accommodations for instruction.
- opportunities are provided that tie instruction to work place learning.
- linkages exist with local community colleges.

Barriers in instructional services, identified by those involved, include:

- integration of vocational and academic study.
- availability of measures for academic achievement, in terms of content instruction.

8. Ensuring Access to Postsecondary Options

The elements of the YTP have helped many students see the importance of lifelong learning, and has supported them as they make the transition to postsecondary education and training.

Factors that contribute to the success of postsecondary options, include:

- linkages to community colleges and adult basic education programs are evident well-utilized. Many students use these avenues to attain GEDs and further education and training.
- cooperation from and coordination with the VR agency.
- employers provide training, apprenticeships, and other options.

Barriers to postsecondary options include:

- need for balance on the postsecondary side of the equation.
- cumbersome state requirements which inhibit flexibility.

CONCLUSION

The YTP staff believe that the program can be replicated in states and communities nationwide. The program has been successfully replicated in 26 sites around the state and has demonstrated its portability. The program has submitted a proposal to become validated and approved by the Program Effectiveness Panel of the National Diffusion Network.[3] With its capacity for training and technical assistance, fostering self-determination in students with disabilities, person-centered planning, student follow-up and tracking, and experience in designing and conducting comprehensive program evaluation, systems are in place for other states and local communities to investigate whether the YTP can be successfully replicated in their area.

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[3] By way of update, in July of 1995 the YTP has expanded to 37 sites throughout Oregon (covering nearly two-thirds of all high school districts). The YTP has been certified by the Program Effectiveness Panel, and it is about to be replicated in two states.

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CASE STUDY REPORT

Prepared by:

Scott Menzel and Anne Rogers
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Pasadena, California the week of February 28-March 3, 1994, to study the Pasadena Graphic Arts Academy. We were particularly interested in how the district had adapted the academy model to local economic and institutional circumstances.

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We would also like to thank John Thomas, Chair of the Graphic Arts Advisory Board, for inviting us to observe the board's March meeting, and for offering his perspective on the academy's past and future. And we much appreciate Doug Haines, Coordinator of Printing Services for Pasadena City College, who introduced us to the staff and facilities of the college print shop.

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INTRODUCTION

In this case study report, we consider school-to-work transition at the Graphic Arts Academy, which prepares students in Pasadena, California for employment in the printing industry of greater Los Angeles. The academy operates as a school-within-a-school at Pasadena High School (PHS), enrolling ninety-eight students in grades 10-12. Sophomores and juniors take almost all their course work within the academy. Seniors take advanced courses at Pasadena City College (PCC).

In founding the academy in 1991, the Pasadena Union School District (PUSD) adopted a model that has met with success in Philadelphia and Oakland, among other cities. The academy is a self-contained unit within a high school marked by several key features: a significant partnership with industry, integration of occupational material with academic study, a small team of teachers who create the curriculum, block scheduling of classes, enrollment of students in grades 10-12, a target population of students at-risk, and an emphasis on motivational exercises and materials. Academies must meet the same academic standards as comprehensive high schools, although their approach to academics is often applied. Students have access to the entire school, but the academy instructors provide their core course work and training.

The Pasadena Graphic Arts Academy admitted its first class only three years ago. As a result, this case study offers insights into the process of implementing and adopting a model structure to local circumstances, rather than an analysis of a mature, established program. It provides an opportunity for an understanding of how change occurs within real schools, as distinguished from theoretical models of change. The Graphic Arts Academy has faced difficult challenges typical of schools adopting academies: the tension between the purposes of business sponsors and schools, the radical reform of curriculum required to integrate vocational and academic purposes, the friction created within a school when one part operates differently from the rest of the institution. And the academy is coping with these and other issues in the midst of a community beset by the usual urban ills.

This report is organized into seven major sections. Following the introduction, the report briefly describes the history of the Pasadena Graphic Arts Academy and the role of the printing industry. Next, the report profiles the system that supports the Graphic Arts Academy: its staffing, advisory board, etc. The following section describes the academy's operations within school settings, including both Pasadena High School and Pasadena City College. The next section profiles the academy's workplace-based activities. The next section considers whether the academy has had significant impact upon its students. Finally, the case study examines factors that appear to contribute to the academy's successes, and possible barriers to the replication of these factors.

This case study is based on the work of AED/NIWL's research team. Two researchers visited the Pasadena Graphic Arts Academy during the week of February 28-March 3, 1994. They conducted interviews with administrators, instructors, and students, as well as observations of classes and an advisory board meeting.

CONTEXT

Located to the north of Los Angeles, Pasadena once attracted the most wealthy and privileged classes of America, who built homes and public buildings in the foothills of the San Gabriel Mountains as visible monuments to their worldly success. Pasadena High School today is another kind of monument to American life, with its deteriorating physical plant and locked iron fence around a sixty-acre campus. The school's staff and students must contend with poverty, gangs, and the other pressures of contemporary urban life. And like so many California schools, PHS educates a multicultural population that speaks many different languages: the high school enrolls more than 2,200 students in grades 9-12, of whom approximately thirty-five percent are Latino, thirty-one percent African American, twenty-eight percent Anglo, and six percent Pacific Island/Asian or other. Two-thirds qualify for the Chapter One program because of their low reading and math scores.

A deliberate decision to introduce educational reform brought the academy concept to the Pasadena school district in the late 1980s. According to people who worked in the district at the time, Pasadena High School actively sought to hire a visionary, reform-minded principal. The district hired a new director of secondary education at approximately the same time, who brought to his role both commitment to reform and experience with the academy concept. He subsequently persuaded both the district superintendent and the school board that the academy concept could benefit Pasadena.

It was the director of secondary education's enthusiasm for the academy model that inspired the CEO of Castle Press to approach him following his presentation on the academy model to a 1990 meeting of Pasadena's Business Roundtable. A prominent local businesswoman, the CEO expressed interest in the possibility of an academy connected to the printing industry.

Castle Press belongs to the Printing Industry Association of Southern California (PIA/SC), as do about 1,950 other printing businesses in the region. More than eighty percent of the companies that belong to PIA/SC employ fewer than twenty people, and so PIA provides group health and other benefit plans that small companies could not easily arrange independently. In the mid-1980s, PIA conducted a self-evaluation to ascertain their industry's standing in relation to the future workforce. What the evaluation found startled them into action: a potential shortage of 250,000 workers. Without some type of action, the industry would find itself in dire straits. Although retraining some workers was one avenue, it would not address the larger issue of where to garner new employees. In order to run the complex machinery in a printing facility, workers often need eight to ten years of experience. If the printing industry could begin training workers prior to their graduation from high school, it would be in a more viable position. Again recognizing the importance of concentrating their efforts, PIA/SC established an education committee to consider ways to deal with the shortage.

In February of 1991, the district convened an advisory board for the proposed Graphic Arts Academy, including representatives from the district, high school, Castle Press, PIA/SC, and Pasadena City College (PCC). During the ensuing six months, the planners placed intense effort on gathering equipment, retrofitting a building, identifying instructors with appropriate industry and academic backgrounds, and otherwise laying the groundwork for a successful program. Without the extremely expensive printing equipment donated by the industry, the district would never have been able to operate the academy, which by definition offers hands-on learning. The academy prepares students for successful long-term involvement in the industry, including commercial art, printing, graphic design, and advertising. Possible employment areas include administrative and clerical, production support, design, paste up and typesetting, scanner and camera operators, platemaking and proofing, press operators, cutter and folder operations, shipping and warehouse positions, management, and sales.

In September 1991, the Pasadena school district opened the doors of three "partnership academies," including the Graphic Arts Academy, to their first incoming classes. At the time of the AED/NIWL site visit, seven academies enrolled 700 of the district's 6,000 students at four comprehensive high schools. Despite the California state funding structure, which promotes academies that enroll at-risk students, the Pasadena academies have always sought to enroll a broad spectrum of students. Given the population of the school district, however, officials estimate that about eighty percent of students enrolled in the academies district-wide are low-income, limited English proficiency, or special education. When asked, some of those in Pasadena say that the academies are for at-risk students; others insist they are for all students. The G.P.A.s of Graphic Arts Academy students ranged from 1.4 up to 4.0 in 1993, and the ethnic mix roughly paralleled that of the district.

At the time of the site visit, ninety-eight students attended the Graphic Arts Academy, of whom twenty-five were juniors, forty-two were juniors, and thirty-one, seniors. The senior class originally enrolled about fifty students.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

The Pasadena Union School District adopted a model which incorporates a transition system that, in its ideal form, creates partnerships between business and education to provide a successful transition for students into the workplace and postsecondary education. Responsibility for the Graphic Arts Academy rests with the partnership organizations, including Pasadena Union School District, the Printing Industry Association of Southern California, Castle Press, Pasadena City College, California State University at Los Angeles, and the Los Angeles Regional Occupational Program (ROP). The partners connect the academy to a larger universe of resources, including funding, equipment, advanced training, placements, and expertise. The partners sit on an advisory board that meets periodically with the academy instructors to oversee and advise.

According to the Pasadena model, the academy offers students three years of education that integrates academic study with technical training and includes both school-centered and workplace-based activities. In their sophomore and junior years, students take most of their courses in the Graphic Arts Academy building, situated apart from the main high school building, across a small parking lot. Five instructors teach all their academic and technical subjects. These instructors benefit from smaller class sizes and an extra preparation period. Course work blends applied academic study in English, history, mathematics, and science with technical training and hands-on experience on printing equipment. Field trips and guest speakers provide motivation and information about career paths in the graphics arts industry. Students continue to advance so long as they earn at least a C grade in each class and recommendations from their academy teachers. As juniors, students are matched with an industry mentor, complete an unpaid internship in the workplace, and obtain a paid internship for the summer with a printing company.

As seniors, academy students take advanced graphic arts courses at PCC, concurrently earning high school and community college credit. Overall, their daily schedule and environment change dramatically: they share an early morning advising period, followed by an economics class, but soon after 9 a.m., they go their separate ways, to printing classes at PCC and to elective courses elsewhere in the regular high school. After two years of study with the same small group of students and instructors in the same small building, the group is scattered.

Having completed the academy, students are eligible to graduate with a specialized high school diploma, which indicates their vocational major and competencies acquired. To obtain the specialized diploma, academy students must meet all the regular requirements for graduation from Pasadena High School and complete one printing class at PCC, a senior project, 100 hours of community service, and 180 hours of unpaid work experience. Their academic courses meet the California State University and University of California system requirements for admission.

In reality, the implementation of the academy model has proceeded unevenly, and those involved readily acknowledge that all the pieces are not yet in place. This is to be expected of a very young program, whose planners only had seven months to prepare everything, including a technical laboratory, before the first class walked in the door. Of necessity, much of the implementation work, from developing curriculum to locating mentors to arranging internships, has continued simultaneously with the process of operating the academy. As one instructor observed, at times, the instructors find themselves "about four weeks ahead" of what must happen in the classroom. At the time of the site visit, the advisory board expressed the most concern about weaknesses in the senior year and mentorship and internship arrangements. It also appeared that the community service, after-school printing business, and the speaker and field trip components of the model had been relatively neglected.

Analyzing the system as a whole, several issues become evident that have slowed implementation. The first issue is the fact that within two years of the Graphic Arts Academy's opening its doors, the academy lost key players from three sectors: instructors, school administrators, and business. Most of those responsible for initiating the academy left before its first class could graduate. They were replaced by individuals whose knowledge of, and commitment to, the academy varied.

The instructional staff are an absolutely vital element of the academy concept, the primary point of stability for students as well as the implementers of the curricular and pedagogical reforms that are the heart of the academy concept. Of the three instructors who started with the academy in 1991-92, two left PHS at the end of the academy's second year. The third instructor, still teaching at the academy, was an industry person with no prior experience in schools hired to teach printing technology and processes. At the time of the site visit, the academy instructional team consisted of the original instructor, a teacher hired in 1992-93, and three teachers hired before the 1993-94 school year who had no experience of PHS or academies and little teaching experience in any setting. (Across PHS, one-third of the instructional staff was newly hired in 1993-94). PIA sent the new teachers for a week of training in summer 1993.

Obviously, this configuration of the instructional team has a number of implications. The new teachers have to cope with all the pressures of being a novice as well as the academy's requirements for a specific pedagogical style and intensive, continual curriculum development. Another reality appears to be that more is expected of the most senior instructor, who maintains a 6 a.m. to 5 p.m. schedule at the graphic arts building. The site visitors also observed some evidence of burnout among the instructors, notably a lack of interest in volunteering for field trips, student recruiting activities, and the like.

The Graphic Arts Academy also lost the school administrators whose vision initiated its establishment, as both the principal of Pasadena High School and the director of secondary education for the district resigned towards the end of the academy's second year. Although the individuals who replaced them appear to support the academies in principle, the current of reform in the district may have diluted their attention. Pasadena High School has restructured grades nine through twelve into a "house program," which clusters students into groups of 400 taught by the same cluster of faculty. Each is assigned a head resource teacher, guidance counselor, and clerical staff. Based on Coalition of Essential Schools principles, the House reform shares other elements with the academy. For example, PHS now has "humanities" teachers rather than English and social studies teachers, responsible for integrating those subjects in their teaching. Because PHS students performed poorly in mathematics, the school decided to eliminate ninth and tenth grade science, replacing it with a double block of mathematics in which students can only earn an A, B, or F.

The Pasadena school district has also adopted what they call ALIVE (Academic Learning Integrating Vocational Education), intended to be a systematic approach to improving technical education that "extends and elaborates" on the academy model. The concept offers a vision of technical education that begins in elementary school and extends into the postsecondary years. The transition system is designed to channel students forward with the options of employment and further postsecondary training. It is also designed to channel students from the middle schools into the academies, although these structures are somewhat tenuous. All students in middle school (grades seven to eight) tour the academies. They are allowed to transfer after eighth grade to the high school which houses the academy they hope to attend is housed, to avoid the disruption in friendships and another connections that make students hesitate to transfer after ninth grade. The district also sponsors assemblies in ninth grade in which representatives of all the academies take part. The Graphic Arts instructors also visit ninth grade classes.

In addition, of the three middle schools, two offer "pre-academies," which together enroll ninety students. The pre-academies are not organized around a specific occupational field, but they do engage students in teamwork, critical thinking, and computer studies. There is also a Saturday Science Academy which operates along similar instructional principles, enrolling students as early as fourth grade. At the time of the site visit, however, it was unclear whether the district would be able to fund the pre-academies the following school year.

In the nitty gritty sense of day-to-day administrative support, the school district provides two people: a resource teacher and the academies coordinator. The resource teacher provides curriculum and pedagogical support to all the teachers affiliated with a specific "house" in PHS. This role did not appear well developed at the time of the site visit. The coordinator is responsible for all seven academies and does not appear to have much of a role in the administration of individual academies.

The business sector also underwent a major transition in leadership early in the academy's second year. Originally, the CEO of Castle Press was the dominant industrial player. In the second year, the chair of PIA's education committee assumed a greater role, demonstrating that the industry's commitment went beyond the interest of one person or one company. The change in business and in district leadership also seems to have eased a some personal conflicts that had exacerbated the inevitable friction between business--most concerned with a well-trained work force--and educators--most concerned with academic standards and pressured to prepare all students for the University of California (UC) system.

The one element of the original model that Pasadena appears to be questioning is the structure of the senior year. Seniors do not have classes in the graphic arts building, nor do they see much of the teachers with whom they have spent most of the previous two years. Several attendees at the advisory board meeting believed that this abrupt shift from a supportive, somewhat sheltered environment with consistent and concerned adults had left students alienated and unmotivated. More attention, they argue, was needed to support their transition to independence.

Financial support for the academies has come from the PIA/SC and Carl Perkins funds. The founders of the academy also secured an eighteen-month state grant to get started. Although at the time of the site visit, Pasadena hoped for additional state funds, the situation in California made it unlikely that much funding would be available for the state's academy program. All the academies operate in the red, not covering quite half their expenses, in part because of complexities of the Los Angeles Regional Occupational Program funding structure for vocational and technical education, which provides only about one-third of the funds per student that the Pasadena school district provides for academic education. The ROP also will not pay for vocational and technical courses in the tenth grade.

The academy has survived despite the instability of personnel and pace of implementation. The flaws of the system are primarily those to be expected of early implementation.

PROFILE: LEARNING IN SCHOOLS

> *Our sense of what a really good curriculum is, within the academy, has changed in three years.*
> Academy instructor

The academy model assumes an approach to instruction and curriculum fundamentally different from traditional classroom practice. The basic principle is learning by doing, or contextual learning--learning connected with real-world themes, careers, or experiences. Adopting this principle has meant small classes and lab sessions that rely on applied use of academic skills, cooperative learning groups, team problem solving, and mastery learning techniques. Teachers strive to provide frequent feedback, basing grades and credit on performance. The model for instruction is teacher as facilitator, student as worker.

Devising the "integrative curriculum" for the Graphic Arts Academy has proved to be a continual process. A curriculum that would integrate academic study across disciplinary lines around the theme of graphic arts did not exist when the original instructors for the academy first met in summer 1991. They attended workshops on integrative curriculum and pedagogical strategies appropriate to an academy setting.

Like most academies, the Graphic Arts Academy relies on block scheduling. Academy instructors teach tenth and eleventh graders English, history, algebra or geometry, and science, modifying all these academic subjects to complement lab sessions and illustrate the application of these subjects to printing. They also must integrate safety guidelines, work habits, and ethics into the curriculum. For example, academy students built a small printing press and made ink, applying the theory and practice of science to printing. Students produced booklets about biological reproduction, writing text that had to meet academic standards for both English and biology, and printing a booklet that had to meet technical printing standards.

In the academy's third year, the instructional staff began implementing a project-based approach across the tenth and eleventh grade curriculum, bringing curricular reform and integration to a new level. In prior years, the instructors explain, they relied on small group work, but it was teacher-driven, usually consisting of an instructor and a core group, with the other students on the fringes. Under the project-based approach, an instructor provides several days overview on a topic at the beginning of each grading period, then gives students a list of projects and requirements from which to choose. Each student contracts to pursue a particular area.

As a result, students find themselves working in a multi-task environment in which much of the responsibility for completing their work in a timely fashion rests on their own shoulders. Moreover, students have more than one contract to complete at a time, and must decide themselves how to juggle the work, the only requirement that all must be completed by a certain date.

Complementing the project-based approach is a renewed emphasis on team learning. Most of the projects from which students may choose are team-based. Although instructors are present and provide some guidance, rather than dole out answers, they try to direct students to resources and references and teaching them how to research. They also encourage students to work together to solve problems and complete tasks. The project-based, team-based approach approximates the work environment students will encounter in a real job, and equips them with the research skills they will need for work or postsecondary education. The academy's computer bank facilitates this approach, but typical of schools, the academy has fewer terminals than ideal for the number of students.

An example of an actual project-based assignment illustrates how the process works. For a United States history unit on social reform and industrialization, the instructor introduced the unit, then gave the class a list of activities, from which each student had to select and complete two, in addition to the core assignments. The syllabus descriptions indicate the nature of an integrated, project-based assignment:

- Design and manufacture a complete board game that takes you through the events and themes of Native Son.
- Write a poem, song, or story which shows how women won the right to vote in the U.S.

- Produce a pamphlet or brochure that includes graphics and references to accompany your poem, song, or story.
- Prepare a presentation in which you compare and contrast the yellow journalism of the turn of the century and the tabloid journalism of modern times. Be sure to show the effect of technological developments (linotype, computers, video, etc.) on journalism.

All the students wrote a "muckraking" article in which they described incidents in a modern printshop that had no health, safety, or labor regulations.

At the time of the site visit, instructors reported that the project-based approach seemed to be working well. At first, some students were overwhelmed by the prospect of organizing a quarter's work, but in most cases they coped well with the increased responsibility. They also seemed to take more pride in what they accomplished under this system. Attendance improved. The instructors also believed that the project-based approach had reengaged the best students and the weakest, who before had been, respectively, bored or overwhelmed.

Although the goal is an integrated curriculum, academies are always under pressure to demonstrate that they are both sufficiently rigorous academically and sufficiently thorough technically. The PIA had complained in the academy's second year that the time devoted to training on the printing equipment was inadequate. (Time-on-equipment averaged four to five hours per week.) PIA delivered an ultimatum that unless students spent eight to ten hours a week working with the equipment in the classroom, the printing industry would withdraw its support.

Obviously, the business partners view hands-on experience in a learning environment as essential. To respond to their ultimatum, the academy hired another ROP instructor to work with the students and increased student time-on-equipment by requiring an extended lab. Students are introduced to the equipment as sophomores. Through practical lab exercises and integrated academic requirements, students practice their skills. The lab instructor determines when a student has become proficient on a machine, and students must be judged proficient on all the equipment in order to graduate.

More advanced technical training is made available to academy students through articulation agreements signed between the school district, Pasadena City College, and California State University at Los Angeles. Beginning in their junior year, students may take classes at Pasadena City College, and they are required to do so as seniors in order to receive the specialized high school diploma. The equipment at PCC is more state-of-the-art than the academy's, enabling students to learn more advanced skills in such areas as computer typesetting, lithographic preparation, lithographic press operation, management, and screen printing. For their PCC classes, students earn dual credit from both Pasadena High School and PCC.

Thirty-two Graphic Arts Academy students enrolled in six different PCC courses the first semester of their senior year (fall 1993). Most did well, all but two earning grades of A, B, or C, and praise from their instructors for their enthusiasm and focus. The second semester, only about half the students were doing well at the time of the site visit. One factor could be school calendars: students at PHS were taking their finals while PCC's second semester was getting underway, with the result that eighty percent of the academy students missed the third week of their PCC second semester classes.

In the academy, students take four semesters of lab work, Printing 1-4. Once they have completed fifteen units from PCC as well as those four semesters at the academy, PCC automatically grants them twenty-one units of credit. With forty or more units, which a student could complete in one additional year after high school, students can earn a certificate in printing from PCC in one of four crafts areas or in printing management. If they acquire an additional forty-five units in academic subjects, students can earn an associate degree from PCC.

The next link is with California State University at Los Angeles. A student can apply the credits obtained at PCC to transfer to Cal State's bachelor of science program in printing management. The university will accept as many as seventy units in transfer, if the student has earned a certificate from PCC in printing management plus the general requirements. In effect, this is a carry over of credits earned in high school to the university level.

Since the first academy class graduated in May 1994, it is not clear how many students will access these opportunities, or what other barriers they may face in doing so. The institutional structure is in place, however, promising both students and their parents that an academy-based secondary education may actually increase the ease with which a student might pursue postsecondary education and degrees.

PROFILE: LEARNING IN WORKPLACES

> *We initially felt it might be a burden, but it developed into an exciting relationship. They were good to have around. They performed many functions that we didn't have time to do and they were eager to do whatever we asked.*
> Employer, surveyed about Graphic Arts Academy interns

Work experience in industry settings is an essential component of the Graphic Arts Academy, provided, according to the model, through unpaid internships, mentorships, and paid internships. Academy students acquire mentors and begin unpaid internships during their junior year, and the following summer, work as paid interns.

Students are matched with mentors from the printing industry during the second half of their junior year, beginning a relationship intended to continue throughout their senior year. Mentors commit to at least one once a month meeting with their student, or if that is impossible, a telephone conversation. Some mentors have brought students with them to work, offering job shadowing experiences. Others simply meet for conversation or special outings, like attending a ball game.

Every student is supposed to have a mentor, but at the time of the site visit, the coordinator had matched only fourteen of the forty-two juniors with mentors, similar to the percentage of the senior class matched with mentors the previous year. Some suggest that the more talented or more motivated students are more likely to be matched.

It has proved difficult to develop a solid base of mentors, despite the fact that both educators and industry representatives believe that the mentor relationships are invaluable. A host of explanations are offered. The PIA assigned a staff member part-time to develop mentorships, internships, and other industry-school connections, but some observers believe more time is required to perform that role well. Many observed that the small shops typical of the local industry may hesitate to spare any time away from production. It was pointed out also that crafts people and press workers are less likely to mentor than salespeople and estimators, perhaps because they are tied to production schedules. Typical of mentoring programs, the academy has also experienced mentors who fail to follow up with students, even to return phone calls.

The second type of work experience is the unpaid internship, a structured series of visits to companies designed to give students their first direct contact with the printing industry workplace. The academy's first class of students had a very truncated unpaid internship, because the materials had not yet been developed. A team (the lead academy instructor, an industry CEO, and a professor at California State University of Los Angeles) developed learning modules for eighteen career areas within printing, such as press operator, designer, and accountant. At the time of the site visit, the team was completing twenty to thirty page booklets for each career area, providing students with information to help them select among career areas. The Graphic Arts Academy plans to require juniors to complete ten of the eighteen modules.

For each module, students will first acquaint themselves with the particular career area, beginning with the booklet. They will then tour a related department and interview a staff member, asking predetermined, specific questions. They will take notes, pursuing the question: "If I were to have that job, what would I have to do to get there?" These internships are also supposed to demonstrate workplace expectations to students, including proper attitude, conduct, and attire.

At the time of the site visit, academy staff hoped to begin the unpaid internships for the juniors on April 1st. They planned to have human resources staff from the industry speak to academy classes about such employability issues as attendance and dress. The students will then proceed with the book work and visits to companies. The post-internship activities are directed toward self-assessment, helping students set forth a path they would like to pursue.

By completing the ten modules, students qualify for a paid internship the summer after their junior year. These internships are paid at the minimum wage or better, and provide work experience in the printing industry for at least five weeks, twenty hours per week.

Of the thirty-two member senior class, nineteen students had paid internships in the summer of 1993. The staff anticipated a similar number of placements in the summer of 1993, despite a slightly larger class.

Again, similar to the mentorships, only a minority of academy students have benefitted from these essential experiences. One explanation offered is that students who have jobs hesitate to give them up for a five-week employment opportunity. However, like mentorships, paid internships have proved difficult to develop. Academy staff acknowledge that a few qualified students who wanted paid internships were not placed in 1993 because positions could not be found.

A survey of the 1993 interns and the employers who hired them found mostly positive reactions all around, in particular as the internships were motivating experiences for students. Employers were generally pleased with the work performed, and several students were retained on a part-time basis after the internship. Others promised they would hire their intern once she or he was ready for full-time work.

Only one of the five employers responding to the survey had developed a training plan for the interns, and a few interns apparently spent a lot of time performing menial tasks, like ordinary photocopying. The lead instructor noted the quandary familiar to anyone who tries to coordinate work experiences for students: the need to encourage employers and make their involvement easy, while at the same time ensuring that students learn. "I don't want to lose the employer--on the other hand, how valuable is a filing experience for a student?"

In addition to these formal work experiences, a few students have created their own enterprises, such as preparing business cards for friends and family. They prepared mock-ups, wrote estimates, and collected payment upon completing the project, all under the oversight of the instructor. These experiences are intended less as money-making enterprises, and more as another way to expose students to the complexities of operating a printing business.

Most of those involved acknowledge that the Graphic Arts Academy has not yet provided its students with adequate access to work experience in the industry. However, printing industry representatives on the advisory board unequivocally accept it as their responsibility, rather than the district's or high school's, to secure these relationships with industry.

STUDENT OUTCOMES

> *I know what I want to do. I want to go to college. I want to own my own business.*
> Student

With the first Graphic Arts Academy class graduating in 1994, it is too soon to say anything about long-term outcomes for students. The situation of that class in late winter of its senior year worried both educators and business leaders on the advisory board, but it was not obvious that the behaviors reported indicated permanent disaffection from the industry or from the lessons of the academy. Half the class was doing poorly in their PCC classes, only one-fourth appeared likely to graduate with the specialized diploma, only a few seemed headed for immediate employment in the industry. (Industry representatives said their goal was to see forty to fifty percent of the students go into graphic arts work upon graduation.) Seniors were not applying for a scholarship of up to $500 towards postsecondary education in printing.

While board members raised various explanations for what was happening with the senior class, none seemed to have satisfied for the group. It was also notable that although the board has a student member, whatever the seniors might have had to say, did not seem to be getting into the discussion. The board appeared to be prepared to examine such issues as the structure of the senior year and insufficient numbers of mentors, but more inquiry of the seniors themselves might be valuable as well.

In terms of short-term outcomes, instructors and students offered anecdotal evidence of the academy's positive influence. A boy whose grades were barely passing is earning A's in the academy, and his renewed pride and self-confidence are clear. Some students speak knowledgeably about their career goals and the kind of training they will need. Others show evidence of heightened motivation: coming to school at 6 a.m. to work on a project, claiming a new ambition to go to college. As they talk about their work in the academy, it is common for students to speak of working together or of helping one another, suggesting that some of the concepts of team work have taken hold.

SUCCESS AND REPLICATION

> *After three years, failure is not an option.*
> Chair, Advisory Board

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Pasadena Graphic Arts Academy, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Business partners

The academy model requires the collaboration of one or more strong business partners. The Graphic Arts Academy benefited from such partners during its first three years. **Factors contributing to the successes of the partnership**, according to those involved, are:

- an industry representing occupational fields with sound employment prospects
- partners committed to the process for the long-term
- partners willing to balance the demands of the industry for employees against the goals of educators
- partners willing and able to donate money, equipment, and expertise
- partners willing and able to provide internships and mentors

Several barriers are also evident to those involved with the academy:

- difficulty of arranging mentorships and internships
- domination of the industry by small businesses
- dealing with friction between business and education representatives in the partnership

2. Leadership from school administrators

Visionary district and school leaders brought the academy concept to Pasadena and provided the crucial support and leadership to make the vision a reality. **Factors that contribute to the success of the leadership**, according to those involved, include:

- vision of reform and commitment to it
- ability to forge partnerships with business
- ability to marshal and rearrange limited resources in order to initiate reform
- support for staff development

A number of barriers related to school and district leadership also emerged in Pasadena, however, according to those involved:

- departure of original school and district leadership

- ROP funding formula that penalizes the academy structure
- insufficient administrative resources

3. Instructional leadership

Because the academy model is so much centered on reforming the instructional process itself, the leadership of the instructional team is a crucial element. The Graphic Arts Academy has benefitted from such a team, according to those involved, in which the following **factors contributed to success**:

- commitment to the academy as an instructional approach
- dedication, reflected in long hours and continual effort to improve the curriculum and pedagogy

The instructional team has also encountered **a number of barriers**:

- turnover
- instructors with little teaching experience
- instructors with no experience of the academy
- time demands that invite burnout

4. Vision of reform

The group that initiated the Graphic Arts Academy did so with a vision of reform in mind, which the academy has since tried to realize. According to those involved, a number of **elements of the reform contribute to the academy's successes**:

- an integrative curriculum that organizes academic study around hands-on, real-world vocational training

- pedagogy that emphasizes low student-teacher ratio, team work, project-based efforts
- engagement of business partners

Barriers, according to those involved, include:

- a brief planning period before the academy began operating
- the senior year structure
- the difficulties implementing the workplace-based elements

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

EAST SAN GABRIEL VALLEY REGIONAL OCCUPATIONAL PROGRAM

CASE STUDY REPORT

Prepared by:

Susan Hubbard and Anne Rogers
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited East San Gabriel Valley, in Los Angeles, California, the week of January 10-13, 1994, to examine the operations of the Regional Occupational Program. We were especially interested in the ROP's system for delivering worksite learning and its reliance on research to improve its programs.

ACKNOWLEDGEMENTS

The team members of the East San Gabriel Valley ROP went out of their way to ensure a productive visit for the research team. Laurel Adler, superintendent of the ROP, generously gave of her scarce time to explain the fundamental vision and principles guiding the system in East San Gabriel. Myrna Evans, Roberta Floyd, Cyndy Pabis, and Dee Porter, ROP coordinators and administrators, tirelessly guided us through an extensive series of observations and interviews at worksites and classrooms throughout Los Angeles. Other staff members of the ROP--including Anita Weakley, John Cragin, Nancy Solorio, Sami Lau--contributed to our research. Our special appreciation to the many instructors who welcomed us to their classrooms and worksites, including Ken Manning, Pat Blake, JoAnn Schubert, Lee Heinrich, Jo Mellinger, and Annette Eckerman. Many administrators from the school districts affiliated with the ROP met with us, contributing their perspective on the ROP system to our research. We were equally welcomed by administrators at the colleges and universities whose programs articulate with the ROP's, including Jane Faulkner, Assistant to the President of Mount San Antonio Junior College; Kim Holland, Tech Prep Coordinator at Citrus Community College; and Sharon Tate, Dean of Academic Affairs at Los Angeles Trade Tech College.

A very important aspect of our research were the observations we made of worksites and interviews with the employers who supervise ROP students. Among the many employers with whom we spoke were Jeff Saks, Matt Martinez, and Debbie Thomas. And finally, we want to thank the community leaders and state officials who met with us, including John Schimanski, Alicia York, and Berlin Parker.

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INTRODUCTION

Across the United States, systems initially established to deliver vocational education to vocational-track students have become the source for some of the most innovative approaches to school-to-work transition reform. The system of Regional Occupational Programs in California, and the East San Gabriel Valley ROP in particular, have already achieved national recognition for their accomplishments, even in the midst of that state's economic recession.

The philosophy of the East San Gabriel Valley ROP is that all students should have the opportunity to develop the skills, knowledge, and attitudes necessary to continue their education and to succeed in their chosen field. To accomplish this vision in the context of economic and demographic change, the ROP relies upon community-based partnerships to provide real-life contexts for occupational training. The resulting system incorporates academic, vocational, and support services.

The ROP has engaged an extensive network extending over an area of 400 square miles of more than three hundred business, industry, and professional partners who develop curriculum, operate programs, and evaluate outcomes. These include such major businesses as the Digital Equipment Corporation, EG & G Power Systems, Bank of America, and Boeing, as well as many local businesses. Government agencies ranging from the L.A. County Municipal Courts to the Metropolitan Transit Authority, and community organizations ranging from the YWCA to the Hispanic Family Institute, are among the ROP's partners. These partnerships open up to students many types of work experience in many different careers. Besides worksite training, ROP programs include paid and unpaid internships, mentoring, and tutoring opportunities.

In addition, the ROP draws upon the resources of educational systems from the secondary through university level. Besides the six unified school districts which are its affiliates, the ROP has forged partnerships with three community colleges and four state universities. An extensive system of articulation agreements links the ROP's occupational programs with the offerings of community colleges and universities.

Lastly, the East San Gabriel Valley ROP is unusually committed to research and evaluation. They describe their curriculum as research-based: studies of market trends and student follow-ups help the staff match their programs with economic reality. The ROP also uses research to assess the impact of its training on students. For example, a four-year comparison study of students who did and did not take part in ROP programs found a number of positive outcomes for students who did, including higher retention in school, higher employment rates, higher rates of job promotion, and nearly twice the rate of participation in postsecondary education.

CONTEXT

Regional Occupational Programs (ROPs) are a special feature of the California State education system. In operation since 1967, ROPs provide occupational training on a regional basis to high school students starting at age 16 and to adults, and usually represent the joining together of two or more school districts for this purpose. The East San Gabriel Valley Regional Occupational Program (ESGVROP) was established in 1972 to serve constituents of sixteen years and older from six unified school districts that operate a total of seventeen high schools and three adult continuation schools in the central and eastern areas of Los Angeles County[1]. About 6,000 students go through the ROP system every day, and 2,700 of these students are bussed to worksites.

The population and the economy with which the ESGVROP works reflect the rapidly changing labor market and demographics of Los Angeles. As a result, ESGVROP serves a great variety of students in terms of economic, demographic, and cultural background. People of Hispanic origin are the dominant ethnic group, many of whom have limited English proficiency. Historically, ESGVROP targeted its services to those students with no plans for postsecondary education, but more recently, its mandate has shifted to include all students. The area is generally lower middle class, with unemployment as high as sixteen percent, and more than sixty percent of the student population qualifying for federal free or reduced cost lunches. Sixty percent come from single parent families. Many students have inadequate credits, poor grades and attendance, and are clearly at risk of dropping out. Teachers report representation from as many as twelve gangs in a single classroom.

As the local economy shifts from a manufacturing towards a service orientation, and many jobs are transferred overseas, the future labor market continues to change, and so has the East San Gabriel Valley ROP. Although the ROP engaged in partnerships with business and worksite learning from the outset, the pace of reform accelerated in the second half of the 1980s. A series of 2 + 2 and 2 + 2 + 2 arrangements were negotiated, applied academics developed, and partnerships forged with community agencies. The ROP won recognition from the county and the state, and finally from the U.S. Secretary of Education, who named it the Outstanding Vocational-Technical Training Program for Region IX. In 1991, the ROP and its partners formalized the Los Angeles Business/Education Partnership, which the U.S. Department of Education soon designated as an OERI (Office of Educational Research and Improvement) Education Partnership Program. That same year, the U.S. Department of Labor identified the ROP as a SCANS demonstration site. During 1992-93, the U.S. Department of Education again recognized the ROP, naming it as a School-to-Work Demonstration site and a Tech Prep Model Demonstration site.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

> *The ROP is a solid concept, and they've made a good thing better.*
> ROP administrator

The staff of East San Gabriel Valley joke that the ROP is the eye of the hurricane, and more seriously describe it as the center of the web. It functions as an area vocational school, with three school campuses plus a network of well over three hundred business and community locations where worksite learning occurs. The East San Gabriel Valley ROP operates as a joint powers agency, and the six school districts it primarily serves are partners. Its governing board members are elected from the school boards of those districts. The ESGVROP chief executive, its superintendent, works directly for that governing board.

The nature of the ROP causes its leadership to describe it as essentially "a process, not a place," and indeed, the AED/NIWL research team observed that the only way to experience the ROP was to move continually from place to place, following its students and staff on the cycle from classroom to support service to worksite. Moreover, the unusual partnership with the school districts means that, according to the leadership, "We exist only because they say we exist; we exist or not based on the quality of our services to districts."

The clarity with which the ROP defines the districts as its customers has shaped a working relationship in which the districts report continual support and assistance from the ROP: "This organization has always been willing to work through the problems." Communication between the ROP and its districts is sustained through daily informal conversations and through the formal meetings of the governing board, the Educational Advisory Committee (see below), and the ROP counselors. Representatives of the districts report a great variety of ways the ROP has both anticipated and responded to their needs, providing assistance beyond the fundamental service of educating students: working through scheduling difficulties, channeling practical and pertinent research findings to the districts, serving as a resource on cutting edge reforms in education, brokering business involvement with schools, fostering more communication between academic and vocational teachers, helping with grant applications, and even providing direct services in crisis situations.

A horizontal management structure that emphasizes teamwork characterizes the East San Gabriel Valley ROP. Those involved describe it as a fairly flat organization in which informal communication among more than 200 staff members is the norm. Because the ROP collaborates in partnerships with external organizations, ROP leaders believe that ethically they should create the same tenor for working relationships within the system. Many staff and board members have, collectively, a long history with the ROP, having served for twelve years or longer. On the organizational chart, a manager of fiscal services and an assistant superintendent report to the superintendent. Reporting to the assistant superintendent are six individuals, two responsible for ROP sites, the others for various programs and projects that operate across sites. Instructors and other staff report to the third tier of managers.

The priorities of the ROP are set by the Education Advisory Committee, a body consisting of the assistant superintendents for instruction from the partner districts. They also coordinate resources and make decisions such as awarding math credits for three units of construction, part of an effort to strengthen and recognize the academic content of that course.

The East San Gabriel Valley ROP is affiliated with over three hundred businesses and other organizations. These organizations include large and small businesses; state, county, and other governmental entities; and many community organizations. Major business partners include Digital Equipment Corporation, EG & G Power Systems, Boeing, and Bank of America.

ROP leaders conceive of their relationship with business as "A process that leads business into the system. You can't start cold with paid training." Thus the ROP offers services to businesses such as a free assessment of their training needs and subsequent information on how to enroll employees in ROP classes.

For their part, representatives of business and industry serve on the advisory committees that guide each ROP program, which meet at least twice a year and often monthly. At least fifty-one percent of their members must represent the industry. The precise activities of these committees vary, depending on the needs of their program, but in general, they assist in curriculum development and labor market analysis, evaluate programs and students, and serve as guest speakers. Individual business people serve as tutors and mentors to individual students.

The greatest contribution provided by business to the ROP, however, is the worksite training they provide to its students. The partnership begins with unpaid worksite learning for students: business is responsible not simply for providing experience but also for providing training that encompasses a mutually agreed-to curriculum of competencies. ROP's leaders estimate that, if the time of the worksite instructors was valued at a conservative $10 per hour, this could amount to a $1 million annual investment from business.

Examples of specific business partnerships include:

- EG & G Power Systems: the president and other employees tutor students who are bussed to the facility two hours each week, and also assist in job training and placement
- General Dynamics: an employee and an electronics teacher swapped jobs to better understand training requirements
- Sears, Roebuck and Co.: provides a classroom and office and worksite learning at one retail store

- Lewis Homes: donated more than $100,000 worth of building supplies and provided speakers and tours of construction sites

The East San Gabriel Valley ROP also has enlisted as partners seven postsecondary institutions, including three community colleges and four state universities.[2] These include more than two dozen articulation agreements, some of which carry all the way through to the university level (2 + 2 + 2). For more than five years, the ROP and its postsecondary and business partners have operated the Los Angeles Area Tech-Prep Consortium in order to advance these agreements.[3]

Initially, the target population of the ROP was the vocationally-tracked, non-college-bound student. By the mid-1980s administrators and counselors for the ROP had begun to change that stance, however, parallel with the development of tech prep. They strive to inculcate in all students a "you can" attitude, encouraging students who plan to attend college to enroll in ROP, and encouraging all ROP students to pursue the postsecondary education they need to meet their career goals. Due to the specific mandate of the ROP system, services focus on students who are age 16 and over.

The ESGVROP places high expectations on students, and, in return, provides whatever support they need to attain the goals they have chosen for themselves. By giving them a reason to take high school classes, the programs keep students in school. The hands-on experience piques their interest and demonstrates the connection between education and long-term career goals. They are encouraged to explore different options and given permission to change their direction. The ROP strives to enhance a sense of self-determination in students, emphasizing lifelong learning and transferable skills.

An array of support services are made available to students. Most pertain directly to career development; some provide for more basic needs. These include vocational and academic assessment, career guidance and personal career plans, GED preparation and basic literacy skills, tutoring, job coaching and job placement, job development, peer mentoring and business mentors, job clubs and job shadowing, business internships, computer-assisted instruction, transportation, and child care.

Every school day, for example, ESGVROP buses 2,700 students to businesses. To understand the magnitude of this operation requires realizing that in some cases only one or two students get off at each stop. The superintendent refers to the bus drivers as "saints," because they must continually change routes in order to respond to the job placements of individual students. Teachers simply send a note to the bus driver forty-eight hours in advance, and the driver will take the student wherever he or she needs to go.

The ROP Child Care Program is available to any student who attends ROP, takes additional classes, or works in a field related to their ROP studies. The cost is $25 a week for students, who are also required to put in "parent time," during which they learn parenting skills, interact with other parents, or babysit for them. The center is open from 7 a.m. through 5:30 p.m. and accepts children from infant (two weeks) through preschool age. The center is staffed by an instructor and students in the ROP's Child Care program.

In part these services are made possible through partnerships with support service agencies. The Special Projects unit of the ROP coordinates these partnerships, of which there were nine at the time of the AED/NIWL site visit. The agencies sign formal memoranda of understanding, in which they agree both to work with the ROP and with each other. It is a notable feature that these agencies also obtain, in return, services from ROP. All ROP students are enrolled in the California Employment Development Department's (EDD) employment service, and in return, the ROP makes referrals for EDD clients. EDD has also provided labor market information to the ROP, formerly very difficult to obtain. The National Council on Aging (NCOA) provides tutors, mentors, and job coaches and helps in job development; in return, its staff can access any of the ROP services. The Job Training Placement Act (JTPA) program, which deals with 17-21 year-olds at high risk, provides job development and job placement for qualifying students and also regards the ROP as a training resource for its clients. The California State Department of Rehabilitation provides support services for students with disabilities and also views the ROP as "a one-stop shop" for many of the training needs of their clients.

No element of the ROP system is more essential than the instructional staff, who are the nexus uniting instruction, worksites, and support services. ROP teachers are certified by the Commission on Teacher Credentialing through the State of California. They must also have five years of practical work experience in the career for which they train, at least three immediately prior to teaching. Within five years, the instructor must take eleven units of training in teaching.

ROP teachers have a great deal of latitude in designing their own curricula and programs. They play important roles in curricular change and are continually developing new partnerships with businesses to provide worksite learning. They present themselves as professionals, serving as role models in this respect for their students. Some arrange mentors for their students. Many act like counselors and work in partnership with the home schools. They are also responsible for recruiting for their program and keeping enrollment up. All teachers are also expected to telephone their previous year's students to follow up on their progress.

The ROP's leadership places an unusual value on research. They depend on labor market surveys and build programs based on their findings. They insist on continual curriculum review to ensure that the programs are state-of-the-art and responsive to labor market trends. For example, the ROP was one of the key sponsors for the 1993 East San Gabriel Valley Economic Advancement Survey of 22,000 businesses in eastern Los Angeles County, to which 1,200 companies responded. It findings included data concerning the skills employers want in their workforce and the types of partnerships businesses had with the ROP.

The approach that the ROP takes to locating resources is described by the leadership as entrepreneurial. For instance, since general fund money can only be used in classrooms, they have tapped other funds to pay for support services: JTPA, Perkins, SCANS demonstration site funds, and so forth. Their business/education partnerships have won national awards and helped the ROP attract both federal and California grant support. The staff works hard not only to attain the funds from various sources, but also to fill out various follow-up forms and reports to funders.

PROFILE: LEARNING IN SCHOOLS

> *Every class is like your own little business--and we tend to develop our own environment.*
> Teacher

The high schools in the districts affiliated with the ROP offer a limited number of traditional classroom vocational courses in such fields as business, industrial arts, and home economics. The ROP offers more innovative courses which include workplace training, more practical training, and often, articulation to college courses or formal apprenticeship programs.[4] Strengthening the academic aspects of ROP courses is a current priority of the leadership, in order both to improve the education of ROP students and to increase the suitability of its courses for articulation at the postsecondary level. High schools decide on a case-by-case basis whether to grant academic credit to individual students for ROP courses. Credit is often awarded: for example, ROP medical courses often fulfill life sciences requirements.

Little of a student's time in an ROP course is spent in a school classroom. The purpose of these courses is to place students in "community classrooms"--worksites--and ensure that they learn there. During the first three to four weeks of an ROP class, students are expected to demonstrate consistent attendance in order to be assigned to their worksite. If the student is not attending class, the instructor will telephone the student or counselor. After three to five weeks of instruction, the teacher assesses each student, and in consultation with the student, assigns him or her to a community worksite. Students interview for each placement as they would for regular employment. Once students are placed, the typical week includes one day in the classroom, often Monday, then four days at placements while the teacher visits students at worksites and discusses their progress with their supervisors.

The model for successful ROP programs is still Fashion Merchandising/Apparel Marketing, its first formal tech prep arrangement and a nationally recognized program. In the past five years, the program has had a 100 percent placement rate, 85 percent college-going rate, and very few dropouts. First-year students take two semesters of theory and work in the classroom five days a week, two hours a day. Advanced second year students work through cooperative vocational education arrangements, which are paid. They must spend three hours one day a week in the classroom on written projects.

The curriculum for the program is broad, covering various aspects of entrepreneurship as well as time management, English, math, and design. The SCANS skills are integrated into the competencies taught. Students design the classroom area, changing the display four times a year to simulate department store displays: back-to-school, business, holiday, and springtime. The students maintain a "store" of clothing purchased from thrift shops, which is inventoried, priced, and tagged. Students may borrow these clothes for job interviews, field trips, tours of fashion shops, etc. It is a principle of the program that these students dress professionally whenever off campus.

Students are also active in DECA (Distributive Education Clubs of America), and have won many awards for their work. The ROP's DECA program provides both a leadership component and an additional opportunity to reinforce the values of grooming and time management. It also plays a role in integrating vocational and academic study; for example, through projects that connect math and English with marketing.

The guidance and counseling systems which connect students to ROP programs are housed in the partnering schools. There is an ROP counselor in the career center of every high school in the six districts partnered with the ROP. The career center clerk is hired by the high school, and part of the ROP counselor's salary may also be contributed by the high school. The ROP counselor works closely with the counseling staff of that high school.

Counselors make presentations on ROP at least twice a year, and there is other publicity as well, including career fairs and guest lectures. Students who are interested in ROP programs are first interviewed by counselors to ascertain the seriousness of their interest, to prepare them for such issues as the dress code, and to explain prerequisites, expectations, and barriers. The counselor schedules the student into the ROP class, and meets with the student once a month. The ROP paperwork is filled out on the student's home campus. On the first day, students have career center orientation on the home campus. On the second day, students go to the ROP bus stop, from where the bus takes them to their classes.

ROP students undergo a vocational assessment process of one to three stages, defined as "a systematic, ongoing process" designed to gain understanding of an individual's career interests, aptitudes, and values. Stage I includes an intake application and inventories of interests, learning style preference, and personality. This ninety-minute process employs a variety of approaches, depending on the student to be assessed: nonreader interest inventories, bilingual assessment, pictorial and video, and role playing. Stage II assessment, conducted with ROP students referred by a counselor, includes a behavioral checklist and vocational and educational aptitude tests. Stage III engages the school-to-work transition process directly, including ROP class visitations and community-based situational assessments. Interpretations of the assessments are provided to students and parents after Stage I and II.

The ROP is also conducting a field test of C-TAP (Career Tech Prep) for the Far West Laboratory, a system intended to help career-technical students build a professional portfolio of accomplishments. The work completed by ROP students is considered a college-prep course, and for some assignments they can earn dual credit.

Another major element of the ROP's plan for transition are the articulation (2 + 2 + 2) agreements, which have served as the East San Gabriel Valley ROP's primary strategy for connecting its students to postsecondary education. The advantage to this strategy, ROP's leadership indicates, is that it avoids the tracking and stigma inherent in many school-to-work transition programs because from the beginning it neutralizes the perception of an academic/vocational dichotomy, and helps parents see the value of occupational programs. Most ROP courses are articulated to the community college level, enabling students to earn postsecondary credit while still in high school, saving them time and money and encouraging some to consider college for the first time.

The first formal Tech-Prep program was the Apparel Marketing/Fashion Merchandising Program, articulated in 1986 with Los Angeles Trade Tech College, which won recognition as the Outstanding Vocational-Technical Program for Region IX and as a SCANS Demonstration Site, among other awards. Subsequent tech prep programs were developed for child care (1987 with Mt. San Antonio College) and electronics (1990 California Polytechnic). At the time of the AED/NIWL site visit, more than two dozen ROP programs were articulated. ROP staff spend a considerable amount of their time meeting with community college and university staff on articulation matters, and attending the monthly meetings of Articulation Councils. The amount of theory taught in the courses, those involved believe, gave them the edge in obtaining articulation with community colleges.

Upon completing an ROP class, students obtain an Articulation Equivalency Form from their instructor. Filing this form with the department chair at the college upon enrollment enables students to obtain college credit, advanced placement, or partial course fulfillment.

PROFILE: LEARNING IN WORKPLACES

ROP: Real Opportunities Program.
Parent

The Community Classroom offers East San Gabriel Valley students worksite learning that integrates skills training, hands-on experience, and such employability skills as responsibility, trustworthiness, and the work ethic. ROP staff describe what they offer as competency-based instruction that also provides employment, versus on-the-job training that provides employment. Through its business partnerships, the ROP arranges opportunities for students for unpaid and paid worksite learning, for tutoring and mentoring, for job shadowing. The staff is committed to developing opportunities in any career area in which a student demonstrates interest.

More than 300 businesses and other organizations offer worksite learning to students through the East San Gabriel Valley ROP. Under these arrangements, juniors and seniors spend Tuesdays through Fridays each week at a worksite acquiring unpaid learning experience and earning school credits. Students report to the classroom every Monday for related instruction.

Instructors play a major role in developing and sustaining these arrangements. Besides soliciting business interest, the instructor devises a detailed worksite training plan, which includes specific competencies, to ensure that the academic and vocational skills taught in class will be reinforced at the workplace. A General Office Practice Training Plan, for example, is seven pages long and includes such topics as professionalism, keyboarding, basic accounting, job safety, customer service, developing a business plan, communication skills, researching personal career goals, goal setting, and many more, with corresponding competencies also specified.

The instructor helps match each student to the most appropriate worksite, discusses the match with the employer, and provides the class with instruction in job search and application, resume writing, proper worksite behavior, and interview techniques. The instructor is also charged with regularly visiting the site to observe the student in action as well as meeting with his or her supervisor.

Businesses make a commitment to follow the training plan developed by the instructor, and train the student in areas unique to that business. Representatives must also document the student's progress, including completing the evaluation forms provided by the instructor. They are asked to communicate regularly with the instructor and the student.

Observation at several worksites impressed the AED/NIWL site visitors with the nature of the relationship between the instructors and worksite supervisors. Supervisors seemed quite accustomed to visits from instructors, and they conversed comfortably about individual students, their progress and problems, as if these consultations were frequent. It was also clear that all expected students to meet their responsibilities, which include treating the situation like a real job, appropriate dress, dependability, and striving for improvement.

For Hospital-Related Occupations, for example, the student training plan is contained in a folder that lists occupational skills and attitudes and time needed. The on-site trainer is asked to note the student's performance level for each competency, the date of the competency, and to initial this. There are also forms for the trainer to rate the student's weekly progress and standing at the end of each rotation in a hospital department. There is another form for the student to use to evaluate his experience and related careers. At the end of the semester, students are given their folders to use as a job-seeking tool.

Although instructors play the primary role in developing worksite learning placements and supporting students in their placements, they are assisted by job developers and job coaches. There are between seven and nine job developers, who work in concert with the California EDD and Department of Rehabilitation job developers. They meet every Friday to share information. They also work with NCOA volunteers to help them mentor students and develop jobs. The job coach is a one-on-one intensive role which starts prior to a student's employment and helps acclimate them to the job environment. This form of assistance is a case management approach, primarily designed for students with disabilities or at high risk.

Another role designed to support students through the worksite learning process is that of mentors. There are many people who informally assume mentoring roles to support students. Teachers often assume a mentor role, as do supervisors at worksites. Some instructors try to find mentors for their students, in addition to their regular supervisors. In reality, mentors working with ROP students range in age from sixteen (peer mentors) to sixty (NCOA mentors).

The ROP's peer mentoring program was established to ensure that the physical, emotional, and other needs a student might display are met by an appropriate person. It teaches ROP students how to be peer mentors and also matches them with a adult mentor. The mentoring class teaches learning skills and how to help other students with various kinds of disabilities. The class focuses on processes and on finding resources.

One well-established mentorship program links ROP students with employees from EG & G Power Systems. Training for the mentors consists of a two-hour session that covers the issues these students face and tips on how to listen well. Every Monday for ninety minutes in the afternoon, eighteen students go to the company for mentoring and tutoring. Students work on homework, talk with employees about jobs, and generally receive support and encouragement. The important factor, according to those involved, is that the students have someone who treats them like an adult, listens to them, and is interested in their lives. The mentors have time and listen without judgment. If a mentor runs into an issue he does not feel comfortable with, he contacts the ROP staff member.

STUDENT OUTCOMES

ROP students and instructors described many anecdotal incidents pointing to positive student outcomes. The ROP helps students discover that they have an intrinsic value in the labor market, holds them in school, helps them understand why they are taking some of their high school classes, provides hands-on experience, piques their interest and motivates them, and shows connection to long-term goals.

In addition, there are also a full range of quantifiable benefits provided to students by the ROP. Since 1987, the East San Gabriel Valley ROP has sought to evaluate the impact and effectiveness of its programs through the California Education Research Cooperative (CERC), a partnership between the University of California/Riverside School of Education, county offices of education, and local school districts. CERC's purpose is to serve as a research and development center for cooperating members, who are able to pay for the costly research process by pooling resources. The ROP has consistently worked with one evaluation group in order to ensure that the various evaluations dovetail and produce a cohesive sense of the big picture. The evaluation studies began by focusing on the Apparel Marketing/Fashion Merchandising students, but have expanded to the collection of outcomes data for all ESGVROP students.

The first study conducted by CERC examined the outcomes of the ROP's marketing/merchandising program, which was developed as a model tech prep program by the ROP. CERC conducted telephone interviews in 1991-1992 with as many students as could be reached who had studied in that program for either one or two years between 1987-1991. (They were able to contact nearly 70 percent of the total population.) They selected a control group of general track students who had attended high school at the same time, had similar GPAs, but had no school-to-work courses. (Researchers were only able to reach 33 percent of this population.) Because most of those in the program are female, only comparisons of the young women were statistically significant. The findings indicated that the group who had attended the marketing course fared better than the control group along four measures:

- higher graduation rates: only 66 percent of young women in the control group graduated from high school, while 92 percent of those in the marketing program one or more years did.
- increased number pursuing higher education: only 51 percent of the young women in the control group, compared to 68 percent of young women who completed one year of the program and 81 percent of those who completed two years, attended college.
- increased rate of full-time employment: fewer than one half of the general track students in the control group were working full time, and nearly 20 percent were unemployed, whereas more than 90 percent of those who had been in the program were employed full-time, and their unemployment rate was under 4 percent.
- increased number of management track jobs: more than one-fourth of those in the program two years had been promoted to management positions, compared to 7-13 percent of one-year participants and 5 percent in the control group.

Building upon these findings, CERC is conducting an evaluation, funded through the ROP's School-to-Work Transition Project grant, which will include data from other ROP programs in its analysis of student follow-up and placement. This study looks at 9,800 graduates from 17 East San Gabriel high schools, and compares the results of students who participated in school-to-work transition programs, to students from the same high schools who did not. Preliminary results indicated better employment and postsecondary education prospects for at-risk students with both vocational training and worksite learning. Nearly 90 percent who combined classroom and worksite vocational education continued on to college, compared to 62 percent of those with only classroom-based vocational education and 51 percent of those with none. Ninety-nine percent with classroom and worksite training found full-time employment, compared to 91 percent of those with only classroom training, and 44 percent of the noncollege bound students without any vocational training. Among vocational students, 80 percent of those with worksite training found jobs related to their training, compared with 42 percent of those who only had classroom preparation.

Under the ROP's Model Tech Prep Demonstration and Dissemination Project, CERC is also conducting a two-year follow-up study of student outcomes for the ROP's tech-prep programs. They will be looking at the usefulness of the manuals developed under that grant.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the East San Gabriel Valley ROP, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Administrative leadership

Communication is 99 percent of it.
School partner

ESGVROP and its staff are credited by their partners with fostering an atmosphere conducive to collaboration by encouraging trust, flexibility, and acceptance of change. Within that atmosphere, they combine vision with unusual competence and determination to succeed. Aspects of its administrative leadership that contribute to the success of the ESGVROP, according to those involved, include:

- cultivates flexibility, trust, collaboration, and acceptance of change at all levels of partnerships and staffing
- visionary leadership
- cooperative, team-based, horizontally managed staff structure
- attention to communication
- negotiates modifications of state regulations
- approaches school partners as customers who face individual situations and needs
- emphasis on research-based curriculum design and evaluation
- successful pursuit of diverse funding sources

Barriers to the success of the administrative leadership:

- restrictive federal, state, and local regulations
- requirement that ROP only serve students beginning at age sixteen
- competition with other schools for scarce resources
- depth of social, economic, and educational issues confronting the schools
- California's economic challenges

2. Instructional Leadership

> *I wish all our teachers had the enthusiasm of the ROP instructors.*
> School district administrator

The ESGVROP solicits exemplary teachers, who, by law, must have recent industry background. They are responsible not simply for learning within their classrooms, but for developing and nurturing partnerships with businesses as well. The management style of ESGVROP allows teachers range for creativity and initiative in managing their programs, but also requires a high level of excellence and dedication. Aspects of the instructional leadership provided that contribute to ESGVROP's success, according to those involved, include:

- creative instructional styles that emphasize performance-based, individualized learning
- current and extensive knowledge of their industry
- role models for professional attitude and bearing
- motivational skills that affirm any student can succeed
- willingness to provide extra help to students with course work

- willingness to assume a counseling role when necessary and help students find the support services they need

Barriers to the instructional leadership include:

- scheduling conflicts that make it difficult for ROP staff and secondary school teachers to meet
- extent of student need

3. Support Services

The ESGVROP provides an extensive array of support services for its students under difficult circumstances. The range and quality of services attempt to ensure that every student has the kind of support he or she needs in order to succeed. Aspects of the support services provided that contribute to ESGVROP's success, according to those involved, include:

- formalized partnerships with social service agencies to help meet student needs
- extraordinary coordination of logistics, in particular scheduling and transportation
- training and funding for such support roles as job coaches and mentors
- child care from infant through pre-school ages

Barriers to the success of the support services include:

- costs
- extent of the needs to be addressed

4. Cross-sector Collaboration

> *People who work for this superintendent feel empowered to develop agreements with other agencies.*
> Political leader

A basic principle of ESGVROP's operation is to encourage and support collaboration across sectors in order to accomplish its goals. They begin by creating an atmosphere that is sensitive and responsive to the needs of all their partners. Aspects of its collaborative approach that contribute to ESGVROP's success, according to those involved, include:

- ESGVROP's sensitivity and responsiveness to the concerns of all partners
- the visible commitment of ESGVROP's leadership to collaboration and equal partnerships
- the depth and quality of collaboration, especially with business and postsecondary education partners
- quality of teamwork among schools affiliated with ESGVROP
- exceptionally large range of partners
- willingness of partners to share resources and trust, even on confidential matters

Barriers to collaboration include:

- economic pressures in the area
- difficulties inherent in developing an equal sense of commitment in partners
- political wrangling and turf issues present in a collaborative process

5. Situating Programs Off-Site

ESGVROP's "community classrooms" are the more than three hundred local businesses that have agreed to offer work experiences to students. ESGVROP's bus system ensures that every student has transportation to these sites. Aspects of situating programs off-site that contribute to ESGVROP's success, according to those involved, include:

- motivational interest that these experiences offer students
- career skills and real-world exposure that students gain
- provides work experience valuable in the job market
- help students make and test career choices
- demonstrates the practical application of both academic and vocational skills learned in classrooms

Barriers to situating programs off-site include:

- logistics of transportation demands
- commitment required of business
- time demands on instructors in finding appropriate workplace experience for each student

6. Cultivating Student Self-Determination

The staff of ESGVROP combine high expectations for students with a determination to provide whatever support they need to succeed. They place students in demanding work situations and encourage them to track down employment, follow up on job interviews, and so forth. They try to cultivate in students the long-range view that life will require lifelong learning and the ability to cope with change. Aspects of cultivating student self-determination that contribute to ESGVROP's success, according to those involved, include:

- students acquire both the skills and attitude needed to cope with future changes: in the economy and in their own plans
- students take on more responsibility for their own success, at best, making them partners with educators and employers
- increasing tendency of students to take responsibilities in other areas as well, such as learning in classrooms

Barriers to cultivating student self-determination include:

- the extent of support that some students need
- family backgrounds in which self-determination is not the norm

7. Emphasis on research

The East San Gabriel Valley ROP continually turns to research to improve its programs and document their successes. It regularly participates in studies of the local labor market and business climate as well as evaluations of its own programs, their impact, and the effectiveness of their elements. The ROP has successfully used the evaluation components of federally funded projects to collect the program effectiveness data. Aspects of the emphasis on research that contribute to ESGVROP's success, according to those involved, include:

- up-to-date knowledge of local business and occupational circumstances
- information pinpointing the elements that contribute to the ROP's successes

- evidence of the positive impact of the ROP's school-to-work transition efforts, useful in building the case for its support

Barriers to the emphasis on research include:

- costs of evaluation research

8. Grants and Other Awards

We could not do the number of things we are able to do without that.
Board member

The ROP's recent history of successful grantsmanship has made possible some of its most notable efforts, in particular its support services system and research activities. Aspects contributing to the ROP's successful grantsmanship, according to those involved, include:

- aggressive leadership
- support from business and other partners
- based solidly in research
- willingness of instructors and administrators to pitch in and work overtime on grant writing

Barriers to the successful utilization of grants include:

- varying regulations attached to funds by state and federal agencies

ENDNOTES

1. Azusa, Baldwin Park, Charter Oak, Covina Valley, Glendora, West Covina.

2. Citrus Community College, Mount San Antonio College, and Los Angeles Trade Technical College; and California State University-Long Beach, California State University-Los Angeles, California State University-San Bernardino, and University of California-Riverside.

3. The grant from the U.S. Department of Education for the "Model Tech Prep Education Project" enabled the ROP staff to prepare a series of publications disseminating its collective knowledge as well as sample processes and forms. For example, The Connecting Link is a three-ring binder that includes forms, templates, and other information with which a student and counselor could design an articulated 2 + 2 + 2 program in any career. Combined with a resume and samples of work, the materials in the notebook can be used by the student to record her personal accomplishments, creating a professional portfolio. Other materials include publications on nontraditional assessment, peer tutoring, and partnering with business and community groups.

4. Unarticulated courses include: Animal Occupations/Pet Attendant, Cosmetology, Custodial Services, Dental Assisting, Family Day Care, General Office, Home Health Care, Medical Assisting, Travel Service.

Articulated courses include: Aerospace Occupations, Automotive Mechanics, Business/Computer Operations and Applications, Cabinet Making, Certified Nursing Assistant, Child Care and Guidance, Computer Aided Drafting (CAD), Construction, Electronics, Emergency Medical Technician, Fashion Merchandising (Apparel Marketing), Floral Design, Graphic Arts/Printing, Job Coach, Law Enforcement, Machine Tool/CAM, Retail Sales, Tutor Training and Guidance Occupations.

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

ROY HIGH SCHOOL

CASE STUDY REPORT

Prepared by:

Ivan Charner and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Roy High School in Roy, Utah the week of May 16-20, 1994 to study the Choices 2000. We were interested in examining the program's flexible scheduling, comprehensive counseling and guidance, and Student Education and Occupational Planning process. We were attracted to Roy because the students must meet standards in a number of specified areas.

ACKNOWLEDGEMENTS

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Roy High School benefits from an excellent relationship with the Ogden-Weber Applied Technology Center (ATC). We appreciate the time that the ATC staff and advisors spent with us. These individuals include: Steve Carroll, Student Services Coordinator, ATC; Mack Taft, Weber ATC Advisory Group; Sue Westerhill, Weber District Community Relations and Partnerships.

Last, but not least, our thanks to all of the students who talked with us, let us observe them in their classes, at their workplaces, and in career guidance and counseling sessions, including Tom, Tiffanee, Tim, Melissa, Tony, Stacie, Marc, Ann, Brooke, Cory, Becki, Terry, Alan, Tiffany, Canada, and Ryan King ('92 graduate).

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INTRODUCTION

Options are almost unlimited for students at Roy High School in Roy, Utah. Roy has put into place an educational reform initiative that has flexible scheduling, allows students to graduate early, provides an innovative use of credits, and has special relationships with a number of postsecondary institutions. The core of Roy's innovation is its comprehensive career guidance and counseling program. Students develop an individually crafted Student Education and Occupational Plan (SEOP). SEOP sessions, held with students and their parents several times a year, involve a process of career exploration, self-awareness, career choice, and identification of an appropriate course of study. Students can learn about their options through extensive counseling, a career center with computer accessibility throughout the school, a workplace skills course, or assistance from the local Job Service agency. Students in the school must meet standards in communication, critical/creative thinking, social and personal development, self-motivation and adaptability, and preparation for post-high school. Reflected in these standards is the belief that there is a core of basic knowledge and skills in which every graduate must demonstrate competency.

The underlying philosophy of Roy High School is that all students will exit the school prepared to enter the workforce and/or pursue postsecondary education or training. All courses available at the school are considered to be preparation for an occupation: whether it is a plumber, homemaker, doctor, teacher, or cabinet maker.

> *Our goal was to change the school with existing staff. Change is uncomfortable for people and requires patience, patience, patience.*
> Coordinator

Change at Roy High School began in 1988, when a group of teachers who wanted to do a better job of preparing students started meeting. They decided to base their efforts on the special education Individualized Education Plan (IEP) process which recognizes the importance of involving students and parents in the planning process. This developed into the SEOP, which has since become a state model for student planning. A year later the state awarded the school a grant to become part of a 9-district consortium whose focus was on education reform. As part of this state-wide initiative, Roy was given the freedom to change rules and regulations, and legitimacy to continue the "change process" that was started the previous year. The resources were spent on in-service training and planning to allow teachers to be part of the process. The result has been the active support and participation of 85-90% of the school faculty in the change process, within the school and in their classrooms. Roy became a customer-driven school where the student (and parents), employer community, and postsecondary education are the customers.

This case study report is organized into six sections. Following this introduction, the report briefly describes the context within which Roy High School's reform initiative developed and operates. The next three sections profile the systems that support school-to-work, the learning that occurs in the school, and the learning that occurs in workplaces and other out-of-school experiences. The fifth section discusses the impact of the program on student outcomes. The final section examines the factors that have contributed to school's success and identifies some problems and barriers that could impact replication.

This case study report is based on findings from a site visit made to Roy, Utah during the week of May 16-20, 1994. Interviews were conducted with students, parents, faculty, administrators, postsecondary education representatives, community agency representatives, and employers. Observations were made of students in classroom settings and workplaces. Finally, a number of documents were collected and reviewed in preparation for the report.

CONTEXT

> *The mission at Roy High School is to help the learner acquire skills and knowledge to become a productive, ethical member of society and enjoy a healthy life-style. At Roy we learn how to learn, make informed decisions, and resourcefully cultivate environments which meet the needs of today and tomorrow.*
> Roy High School Mission Statement

Roy High School has 1,900 students, all of whom come from within a 15-mile radius of the school. While there is transportation for some students, most either walk or drive their own cars. The area is growing so fast that in the fall of 1995, administrators are opening a new school. Roy will lose 400 students to the new school (the students who required transportation). Roy is a 3-year high school with 2 feeder junior highs which are both overcrowded. A new junior high school is also scheduled for opening in the fall.

The school is predominantly White, with a large proportion of the Mormon Faith. The school has about 4% Mexican-Americans, and a small number of African-American and Asian-American students. About 20% of the students are eligible for free/reduced lunches or fee waivers.

Roy is a blue-collar bedroom community of Ogden with a population of about 40,000. While there is no heavy industry in Roy, there are some mid-level industries (Morton Thiokal, Flameco/Barnes Aerospace, IOMEGA). Other business sectors include public service, building trades, tourism, automotive, computer, and health services. Roy is located adjacent to Hill Air Force Base, so many in the community are employed at the base. There is also some farming in the area, but most are "gentleman farmers."

As mentioned above, the reform effort started about six years ago when a group of teachers in the school felt that students needed to be better prepared for "life after graduation." The goal was that all students who exit the school are prepared to enter work and/or post-high school training. In developing the model, this group of teachers relied heavily on input and direction from many stakeholders as well as on an extensive base of information from research and existing models and practices.

After the SEOP process was developed, Roy became part of the 9-district consortium across the state, focussing on education reform. Two years ago, 100 schools in the state were chosen to be "Centennial Schools," which meant that they were given support to reform the education process in their schools. Roy was selected and continued its reform process. The school was able to continue to develop a flexible and adaptable education program that is driven by students, parents, business, community, and educators. The Centennial designation also helped the school increase the use of technology to enhance the educational experience of students.

The mission of the high school has emerged from a desire to better prepare students for alternative futures. Traditionally, three-fourths of the students take the ACT and anticipate going to college. The problem has been that only 20 percent of these students complete a four year degree. With these statistics in hand, the school decided that it needed to do a better job of providing students with skills that would be useful in the labor force. The feeling was that many students would not be going to college directly from high school, and those who were would have a set of employable skills which could be used to help support themselves through college. The delivery system that was developed included the integration of academic and applied technology courses. Past definitions and expectations of what was vocational and what was academic could no longer hold true if Roy was to meet its new mission.

> *The leaders must plant the seeds, give them time to grow, and provide rewards for good stuff.*
> Coordinator

From the outset, one of the goals of the planning process was to change the school with existing staff. The school's administration has provided the leadership for change, which has been locally produced, and as a result is locally owned. The planning process has centered on the customers (administrators, staff, parents, students, business people) and fostered ownership among faculty and other participants. The school's administration guided the process from its inception. Gaining the interest and support of key people in the school was very important to the process. Early in the process, teachers, parents, and others from the community were given the power to make changes. This had the impact of empowering and engaging teachers and staff.

Roy's strategic planning process involved 50 people--teachers, students, parents, business representatives, and staff. During a three-day meeting, this group developed the mission statement and set of beliefs for the reform initiative. This was followed by a two-day staff retreat at which the mission and beliefs were agreed upon and a list of standards was developed. As part of the planning, a site-based decision-making process was developed, providing a system for soliciting and acting on ideas and issues from representatives of a cross-section of the school and community. Two separate but equal groups were developed: a Steering Committee, comprising students, parents, business people, teachers, staff, administrators, and local school board members, which meets monthly and makes decisions regarding implementation of new programs and changes in the school; and the Faculty Senate, made up of all certified faculty, which makes decisions about curriculum and develops action plans around issues related to reform. The two groups have equal power and have worked well together.

Another important element of the reform process has been the recognition that the model is always changing, and that Roy High School is not "restructured" but rather "restructuring." Assessment and evaluation of the process and the changes has been ongoing.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

The system that supports the reform initiative at Roy High School has a number of elements, including:

- comprehensive guidance and counseling;
- partnerships with businesses;
- the Information Technology Center (ITC) which serves as a readily accessible information delivery and production system;
- interdisciplinary instruction and projects;
- a PM School for students who cannot attend day school, need additional credit, or need more flexible scheduling;
- early college, advanced placement, and concurrent college enrollment;

- Tech Prep;
- an academic advisor program with weekly meetings between students and a teacher of their choice;
- teaching and assessing directly to school standards;
- site-based management consisting of the Faculty Senate and Steering Committee;
- a career lab, networked school-wide, for computerized career exploration;
- Critical Workplace Skills and Basic Apprenticeship Related courses;
- competency-based curriculum using portfolios and performance criteria for student assessment;
- off-campus training at the ATC, colleges, and in workplaces; and
- computer networking throughout the school.

At the center of the reform initiative is the student and the comprehensive guidance and counseling program with its Student Educational and Occupational Plan (SEOP). The SEOP process is an individual planning process in which every student participates starting in the ninth grade. The SEOP process was developed by the counseling staff at the school, based on extensive research and evaluation by Norm Gysbers and his colleagues at the University of Missouri. The comprehensive program covers the four components of the program:

- Guidance curriculum which provides guidance content in a systematic way to all students,
- Individual planning which assists students in monitoring and understanding their own development,
- Responsive services which address immediate concerns of students, and

- System support which includes program, staff, and school support activities and services.

The system support component includes staff development for teachers, counselor professional development, parent education, and school improvement planning. In addition, school staff have been trained by the counseling department in the critical components of the comprehensive counseling and career guidance process. This training has involved group workshops as well as one-on-one sessions between counselors and teachers.

Counselors, teachers, academic advisors, parents/guardians, administrators, and students are included in the SEOP conferencing process. The SEOP is used to determine a course of study for each student based on a career goal. It is a living document that changes continually to reflect identified needs and actions. The process is student-driven with the counselor providing information, options, and choices. A typical process would involve the following:

- meeting to discuss initial plans;
- career exploration;
- testing;
- determining course of study to meet career goal;
- providing information about supplementary courses or activities; and
- acceleration, enrichment, and/or remediation.

An SEOP conference meeting can be convened by a counselor, student, parent , or administrator at any time. The SEOP process has provided incentives, direction, and meaningfulness to students' courses of study. The academic advisement program supports the SEOP throughout the year. Each student selects an advisor from the teaching staff. The advisors are trained to provide assistance to students with evaluating credits, planning schedules, graduation requirements, education and career choices, and being a liaison between school and home. The SEOP process is also supported by the career lab.

Partnerships between the school and businesses have developed and are expanding. These partnerships have not only provided a pool of resources to assist with each student's education program and help connect the world of work and the world of education, but the partners have been instrumental in serving on the Steering Committee and working with the school on its restructuring.

Administration and Staffing

The role of the administration and the faculty has been very important in the reform initiative. The entire process has been dependent on flexible leadership. The school's central administration has empowered the teachers in the school. They have allowed the teachers to work without getting in the way. Many individuals identified the success of the entire reform initiative as dependent on the school's assistant principal. He has been tireless in bring all of the important parties together, in "selling" the ideas, and in empowering all of the players. He is involved in many of the scheduling and credit-granting decisions, and sits in on many of the SEOP conferences. In addition, he has developed linkages with employers, community agencies, and postsecondary institutions.

Ongoing staff development has been an important element in the reform initiative at Roy. From the outset of the process, the school has invested heavily in staff development. They have used the resources available through the 9-district consortium and the Centennial Schools for staff planning and training. This decision to invest in staff development allowed most teachers and counselors to be involved in the change process and greatly impacted their "buy-in" for the changes. Without this staff development, any change would have come from outside of the faculty and it would not have been locally-produced and locally-owned.

The active participation of the majority of the teachers has allowed the reform initiative to succeed. The reform has caused teachers to change their teaching styles, their course curriculum, and their own ways of working together. As a result there are more multi-tasking classrooms, more interdisciplinary classes and instruction, and curriculum compacting. Teachers are more willing to allow students to take classes off-site at the ATC or local colleges, and to schedule work during school hours as a critical component of the student's educational process. Through the Faculty Senate, the teachers have had considerable impact on identifying the standards and competencies that students must meet, as well as on the development of alternative ways to meet those standards.

The counselors are also essential to the process. They have developed the comprehensive career guidance and counseling process at Roy and are in charge of the SEOP process. They provide students with information, options, and choices, and work with them to successfully undertake their educational plans. Sometimes the counselors serve as advocates for students with teachers, employers, and parents, while at other times they are the bridge that links school-based activities with work and employment activities. It was clear during our visit that these dedicated counselors are essential to the success of the entire reform initiative. They need to be willing to meet in SEOP sessions before school starts, during school, after school, and in the evening to accommodate student and parent schedules. The counselors are the members of the school team who have individualized the educational process for each student. They are the ones who recommend that credits be awarded, monitor the flexible scheduling, and recommend early graduation or concurrent college enrollment.

A number of students pointed to the counselor as being a very important guide in their career awareness process. The counselors help them evaluate credit needs, recommend colleges, help them keep on track, brought them through the SEOP process, and provide information on topics the students were interested in. Students felt that this process is "much more like college" and helped them "be more independent."

PROFILE: LEARNING IN SCHOOL

Education restructuring at Roy has resulted in a number of changes in the delivery of education in the school. Staff and administrators have developed new programs which are more responsive to the learning needs of students. These include extensive use of the information technology center to deliver courses, a PM School, more applied technology classes, employment readiness courses such as the Critical Workplace Skills class, expansion of the Career Lab, teaching and assessment that is directly related to school standards, partnerships with other education and training institutions, and flexibility in school policies.

Information Technology Center (ITC)

The ITC is a flexible, multi-use, easily accessible electronic information delivery and production facility. Production of student portfolios, project materials, and multi-media presentations serve as a focus for the center. Databases and integrated learning systems are available through the center. Students can work on Language Arts, Math, Reading and ACT preparation. The integrated learning system is an assessment, diagnostic, and learning tool. The curricula are self-paced and students can earn credit. The center is open during regular school hours and in the evening to facilitate use by PM School students and members of the community. In addition, ITC computers are networked into 15 classrooms and 6 computer labs throughout the school.

In a Literature and Composition class that was observed during our visit, a group of students made a computerized multi-media presentation about metaphors. The information and presentation were all prepared at the ITC. We also observed a tenth grade class in the ITC using the computers to assess students in language arts. A central report is developed for the teacher and each student was working on a self-paced individualized curriculum in language arts. Through the curriculum, student weaknesses are identified and reported to the teacher, who is then able to work one-on-one with the students.

PM School

> *We serve kids who just don't handle day school, kids who are "school-phobic," or just can't handle crowded classrooms.*
> PM School Principal

A PM School has been developed which accommodates students who cannot attend day school, need additional credits, have the need to move through the system more quickly, or need a more flexible schedule because of off-campus training opportunities. The PM school is an open-exit, open-entry alternative high school which was started 5 years ago because the alternative high school serving the area was full. During the first year, there were 20 students, the next year 40, then 60, and last year there were 85 students. This year there are about 130 students participating in the PM School.

The largest population of PM students are those who just can't handle day school. Another group is comprised of about 25 young mothers who choose to come to PM school due to social pressures and babysitting arrangements (they can bring babies). There are also dropouts who return to school through the PM program, and students who are at the ATC during the day and come to PM School at night for academics.

Students enter PM School through the SEOP process. Classes at the PM School tend to rely more on hands-on activities than traditional lecturing methods. In addition, three English classes, a history class, and a math class are run on computers in the ITC. There are four or five classes offered each evening. On the night of our visit there were three English classes, one History class, one computer class, and one health/parenting class. Courses are taught in three-hour blocks so in one evening the can teachers cover what is covered in a week during the day school. Students must get a C or better to receive credit. All but one of the teachers in the PM School are Roy High School faculty. PM students graduate at the Roy commencement with a regular high school diploma.

Applied Technology Classes

As stated earlier, the traditional vocational classes have gone through dramatic changes in the last few years, focusing on more applied technology, integration with academic subjects, and hands-on experiences. In welding, for example, the instructor designed a curriculum which stresses the application of content and context. Advanced math and science concepts (e.g. right-angle trigonometry in welding) are taught in the class. The instructor places 2-3 students in summer jobs in refineries. Typically he selects seniors because of their age, maturity, and experience. During the school year, juniors and seniors work on projects such as fixing farm equipment and hydraulic sprayers. Projects usually take all year. The instructor's emphasis is on meaningful education so students can leave high school and start as apprentices. The instructor has been jointly teaching a class with a math teacher, and next year he will teach Applied Math with engineering. In general, the instructor develops his own curriculum and then works with the math and science faculty to identify areas for integration.

Cabinet Making is another area where applied technology has been instituted. Classes are taught in two-hour blocks. Students are expected to must produce a drawing of their projects and draw up a bill of materials before they can build a project. The instructor works on skills and knowledge so they can form a career ladder and emphasizes that students can use work readiness and cabinet making skills as stepping stones to where they want to go. He teaches students how to work, gives them some direction, and lets them make their own decisions. Some students are out working at cabinet making shops, and others are in apprenticeships. Students in cabinet making built the ITC as a class project. Many of the students are given Fine Arts credit for their cabinet making projects.

Critical Workplace Skills Course

Almost 80 students are taking a Critical Workplace Skills course. This is an open-entry open-exit course that offers applied and work-related training for students. The curriculum has been enhanced by employer input to insure success in matching student potential with industry needs. Instruction is provided in modules on critical thinking, quality control, applied math, technologies at work, work successes, workplace economics, computer literacy, and safety. Student can test out of a module by scoring 80% or better on a pre-test.

Students are required to finish one module every two weeks. The instructor would like to refine the course to make it more custom-fit for students by focusing on specific career areas. He would also like to make it easier for students to take tests in different formats--oral, written, or computer-based. He is planning to change the classroom setup next year to make it look more like a business setting. The instructor would also like students to go through the course before they could get off-campus work. Finally, he would like to see a progression of courses beginning with this course in the 10th grade, shadowing or internship experiences in the 11th grade, and on-the-job training or apprenticeship in the 12th grade.

Career Lab

Roy High School's Career Lab is designed to be the primary focus for career exploration. A number of computerized career information and exploration software programs are available to students. In addition, students can explore scholarship possibilities and go through a personal assessment of attributes, abilities, and interests. All of the programs are user friendly. The Career Lab is available to all students as part of the SEOP process and is networked throughout the school for convenience to the academic advising program. The Career Lab also houses print materials on job opportunities, resume writing, job interviewing, and other career-related areas of interest to students.

Teaching and Assessing to Standards

The restructuring process has resulted in a heightened awareness of the importance of teaching directly to standards. A listing of Roy High School's standards is provided in the Appendix. The standards have been developed through a process of research, discussion, and experience. The standards reflect a commitment to prepare students in five critical areas: communication, critical/creative thinking, social and personal, self-motivation and adaptability, and preparation for post-high school. Under each area a set of specific standards is identified. In the near future, these standards will become the graduation requirements for students.

School staff members have begun to plan and develop curriculum in all courses to match the standards. Simultaneously they are trying to develop an assessment system that assesses to the standards. Portfolios and performance criterion are being developed, and authentic assessment tools are being reviewed. The entire process has been research-driven. Competency tests have been developed in: home economics, health occupations, medical English, welding, machine tool, automotive, Critical Workplace Skills course, Basic Apprenticeship Related Course, business, commercial art, woods, drafting, principles of technology, foreign language, mathematics, and chemistry. They recognize that it is a difficult process to decide on evidence that students are meeting standards.

Partnership with other education and training institutions

The Ogden-Weber Applied Technology Center (ATC) offers hands-on applied courses in 16 occupational areas. All programs are open-entry open-exit with many including on-the-job training as a component. The ATC offers a summer exploration program for high school students, and currently there are 500 high school students taking classes at the ATC. Some Roy students take only one course at the ATC while others take a number of courses. Roy's flexible scheduling allows students to take classes at the high school and at the ATC simultaneously.

Twelve Roy students are participating in a school-to-registered apprenticeship program. These students go to high school in the morning, work in the afternoon (20 hours per week), and attend classes at the ATC two nights per week. The ATC has eleven apprenticeship programs in which students can participate.

Roy has also developed partnerships with colleges and universities in the area. Roy students can take classes at Weber State and Utah State as part of their early college or concurrent college programs. Roy administrators have been meeting with college and universities in the area to plan and develop new partnership initiatives. They are also discussing how postsecondary institutions can use the Roy competencies to assess student achievement. Utah State and Weber State are now accepting portfolios as part of the admissions process instead of relying on ACT scores and grades.

Flexibility in School Policies

In addition to these specific programs and activities there are a number of other factors that facilitate learning in school. The first is the flexible scheduling that students are allowed. During our visit we saw many students signing themselves out of school to go to workplaces, the ATC, internships, or colleges and then signing themselves in later to take a class at the high school. A second factor is flexible granting of course credit. There were a number of instances were students were able to receive credit for a course or subject by taking a related class or participating in a program at the ATC. Fine Art credit is granted to some of the cabinet making students, physical education credit for a student who is on the soccer team, and science credit for an advanced technology class at the ATC. This granting of credit is done on a case by case basis.

Students at Roy can complete their high school program early and can attend college as early college students or through concurrent enrollment. As part of the restructuring process, curriculum compaction is taking place. Departments are realigning assignments, breaking down barriers, and collaborating to develop courses that better meet the needs of students and reflect the changing nature of content in many areas of study.

PROFILE: LEARNING IN WORKPLACES

> *We are insuring the future of our workforce.*
> Business Partner
>
> *This has been a learning experience for our staff. Figuring out how to teach the students improves each department.*
> Business Partner
>
> *We give the students a taste of what they need to succeed in the world of work and why what they learn in high school is important.*
> Business Partner

Students at Roy High School have many options for work experience and outside training. Partnerships with a number of large and small businesses in the area mean that students can be matched with an appropriate workplace learning experience. Students work and learn in workplaces as diverse as car dealerships, the county court, radio stations, pharmacies, construction companies, and doctors' offices.

A number of business partnerships have been functioning for several years. These provide opportunities for students to shadow employees and participate in internships. Business partners can serve number of different roles from internship sponsor and mentor to business/education team member. Business partners serve on the steering committee and have played important roles in developing curriculum for the Critical Workplace Skills course and the apprenticeship program. The input of business partners has been instrumental in the development of school standards and outcomes. Development of partnerships with business has been a critical aspect of the initiative at Roy. The success of these partnerships rests on the continuous nurturing of business by the assistant principal and other staff at the school. In addition, the fact that the business partners are given central roles in planning and implementation of the program elements has been an important incentive for their active and continuous participation.

St. Benedict's Hospital

St. Benedict's Hospital has been involved with Roy for three years. Roy uses the hospital as its primary site to give students an understanding of health care professions. There are many opportunities in the area for health occupations careers. St. Benedict's participates to help students understand about the changing face of health care. They get involved early with students to build on the hospital's strong community involvement, to expand the pool of potential employees, and to help students and their families become familiar with St. Benedict's. In addition, hospital staff members commented on how much they have learned from their experiences with the students.

The hospital offers job shadowing to ensure students have real-world information and to give them some idea about necessary training. As part of the high school's Health Occupations program, students are required to complete six different rotations (not all necessarily with St. Benedict's). The length of rotation varies depending on the department. The only specification now is that students need to know basics. If a student finishes Health

Occupations 2 in their junior year, they have the option in their senior year to get 15 hours of college credit by taking HO3, which is an integrated curriculum of microbiology, human biology, and chemistry offered through Weber State University. There are no college students in the classes and the university pays for the instructor.

The key to the success of the partnership with St. Benedict's is that the high school and hospital policies and staff are flexible and cooperative. Staff attitudes, which were originally somewhat hesitant and reluctant, changed because of the positive experiences they have had. While the employees in the hospital are not teachers, they have worked with school personnel to develop the program. The hospital has identified "instructors" in each department who take the lead in working with the students. The teachers and instructors have changed the program based on their experiences and the needs of the students, resulting in a program that links school experiences with the internship experiences of the students.

Flameco

Another example of Roy High School's business partnerships is with Flameco, an advanced fabrication manufacturer. Flameco provides mentors for some students, as well as internship opportunities. The partnership began with students shadowing in all areas of the Flameco facility. The goal was to increase career awareness and provide some hands-on experience for students. The program began with about six students a month shadowing in computer-aided design, welding, machining, and fabrication. Students on the floor are treated like adults and are expected to dress and act appropriately. They were assigned to associates on the floor and according to plant managers, "the associates loved this." This year, four students interned in engineering. They had to submit resumes and come in for interviews. They are assigned to an engineer and work 2-4 hours per week. Another six students come in every other Wednesday to weld and run machines. There has been a desire on the part of the Flameco liaison to put the students to work, but this is not possible because of their age and company restrictions.

Associates at Flameco have had a very positive attitude about the program and are willing to teach and work with the students. Teachers and staff from the high school have come out to Flameco to get oriented and to see what goes on. Next year, the math department will assign 1-2 teachers a month to go through Flameco. This will help with the integration between the work experience and classroom learning.

Job Services

Roy High School has a unique partnership with Job Services, which is Utah's public employment office. Job Services staff have a strong connection with schools because education is a major supplier for their businesses. They view the employer as the principal customer and thus consider it essential to find proper matches. A representative from Job Services meets with students at Roy High School twice a week. A modem at Roy allows Job Services representatives to hook into the Job Services computer to provide up-to-date labor market and employment outlook information to students. Job Services staff members also talk to classes about making career decisions, bring students to their headquarters to work on their resumes, and provide information about job prospects for students in the SEOP process. The current Job Services representative also works closely with the Critical Workplace Skills Course to link students into jobs, because those students are most prepared.

The Job Service representatives we spoke with felt that Roy has a progressive attitude about partnerships. Roy's certification of skills (i.e. competency-based) is useful when Job Services tries to sell the students to employers. The SEOP also contributes because most Roy students are already on the right track. Employers are impressed with how prepared the Roy students are. They feel that the students have worked toward their goals, and job placement is a step in the process.

STUDENT OUTCOMES

> *Students are more focused and have more of a sense of direction.*
> Assistant Principal
>
> *Students are changing, parents are changing, and business is more involved.*
> Applied Technology Coordinator
>
> *The emphasis on competencies guarantees employers that Roy students will have certain skills.*
> Steering Committee Member

The first class of graduates who were part of the restructuring initiative graduated in 1993. In order to find out what happened to these students, a telephone follow-up survey of graduates or their parents was undertaken. The results are as follows:

- 177 in education full-time in career area of choice;
- 145 employed in career area of choice;
- 134 employed outside career area of choice; and
- 190 doing other things including military or mission for Church.

In terms of college-going and employment in career area of choice, the initiative seems to be effective. There are other indicators that suggest that the program has been successful. An informal comparison between Roy students and students from Weber State University suggest that the Roy students are more focused and have a clearer sense of direction. This is due in large part to the SEOP process which links career planning with educational programs.

According to some of the employers, Roy students in the health occupations fields are better prepared than college-trained students. This is due to the fact that a great deal of the preparation of the Roy students is hands-on. The students are able to learn at the workplace through internships and work experience and have this integrated with their classroom instruction. Another indication of success is the increase in ACT scores. While the objective of the restructuring was not to increase test scores, ACT scores have increased 11 percent. This is attributed, in part, to the fact that students are more focused and see a connection between what they do in school and their future.

In addition, students felt that their experience helped them be more motivated, made them more serious about school, increased their interest in continuing to learn, and improved their self concept. Participation in the internships and work experience programs has also opened up many education, scholarship, and employment opportunities for the students. A number of students suggested that they also got other benefits such as resume preparation and interviewing skills.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Roy High School initiative, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

A number of factors have been identified by those people interviewed that appear to be critical to the success of the restructuring initiative at Roy High School. Having a **shared vision** has been critical. At Roy, the vision was developed through a process that involved all constituencies: students, teachers, administrators, parents, employers, and community agency representatives. As a result everyone has ownership of the change process that has unfolded. The important result is that the restructuring was locally produced and locally owned.

Closely related to this is the **administrative leadership** at the school level that has not only supported the restructuring initiative, but has empowered all parties to be active participants in the process. Support in the form of grants and other resources has also come from state education system. These have help the process and have shown the players at the local level that the state is supportive of meaningful educational reform.

Almost everyone who was interviewed pointed to the leadership of the Assistant Principal and the Applied Technology Coordinator as one of the essential factors that has made the initiative successful. These two individuals have been active spokespeople for the effort, have work closely with all constituent groups, and have worked with individual students and groups of students to improve their education process and outcomes.

Another important factor is the **leadership of the teachers and instructors**. Almost all of the teachers and staff in the school have bought into the process. They are working very hard to change curriculum, pedagogy, and the very core of the education process at Roy. Their work on standards and competencies and the measurement of this has been and will continue to be very important.

At the core of the restructuring has been the **comprehensive career guidance and counseling process** and the SEOP. The school's counselors play a critical role in making this process a success. They are the ones who convene the meetings, provide the information, and give students and parents the options. They are also the ones who need to consider flexible scheduling and granting of credit, as well as working with teachers on the SEOP.

Closely related to the SEOP process is the critical role that **parents** have played. In almost every case, parents are part of the SEOP discussion sessions. As a result they not only feel that they understand their child's education program but they are an active participant in the process.

The **curriculum options and off-campus experiences** are other factors that have led to the success of the initiative. The information technology center, PM School, interdisciplinary instruction, early and concurrent college programs, Career Lab, and Critical Workplace Skills course are all important in-school learning components. The opportunities for internships, work experience, and training at the ATC have provided meaningful work-based and off-campus opportunities for students. In addition, the integration of the work-based and school learning has been an important strategy.

The **strong partnerships with the business community** are very important to the success of the restructuring effort. From the outset, the business community has been an important partner in developing direction and vision, and in working on action plans and serving on the Steering Committee. Business has also played an active role in advising program areas, providing equipment and materials, and revising curriculum. They have also provided internship and work experience opportunities for students.

Problems and Concerns

Despite its success, a number of issues and concerns were identified by individuals at the site during interviews and meetings. Most of these relate to expansion and replication. The issues include:

- concern that the Assistant Principal, who spearheaded the restructuring initiative will be leaving to go to the new high school in the fall. A number of counselors will be going as well. While many people felt that the initiative has been institutionalized at Roy, there was concern that there would be some loss due to the departure of key people.
- as new teachers and administrators come into the school they will need to "buy into" the vision and the restructuring, and they have not been part of the process of developing it.
- the challenge of ensuring continued participation by the business community, in terms of participation on the Steering Committee and curriculum advisory groups and for providing internships and work placements.

- continued necessity of capacity-building, especially regarding teacher development related to the standards and the measurement of the competencies.
- the challenge of ensuring better integration between the academic and career or occupational programs in the school.
- the challenge of maintaining ongoing public relations to continue to bring Roy High School and its programs into the community.
- flexible scheduling and credit granting are important elements of the program. These need to be continued and expanded to offer even more options for students.
- off-site experiences should be made available to more students and teachers to help them recognize that learning can take place outside of classrooms.
- exploring the possibilities in continuing to link back to the junior high school and possibly start the SEOP process in the elementary school.
- the challenge of further development and use of assessment tools (portfolios, presentations, etc) that can evaluate student competencies and working with postsecondary institutions to accept these as part of the admissions process.

SUMMARY

All of the individuals with whom we spoke during our visit felt that replication of this type of reform initiative is possible, but it needs to be locally produced if it is to be locally owned. There are a number of elements that are critical to the success of Roy High School and therefore important for replication. These include:

- A shared vision that is developed by the school and larger community and reflect the input of students, teachers, administrators, business representatives, agency representative, and parents. The vision should include clear standards and expectations for students.
- Leadership and support from central administration.
- Active participation and leadership teachers. The need to be given the power to change.

- A comprehensive career guidance and counseling program with a Student Educational and Occupational Planning process that is ongoing and linked to a career information system and academic advising program.
- Flexible scheduling and granting of credits, including a PM alternative school and early college options.
- Strong partnerships with the business community that go beyond providing work setting for students.
- Providing meaningful internships, work, and training experiences for students.
- Ongoing public relations to keep the community informed about the initiative.
- *Recognize that you are restructuring and not restructured. The process needs to be ongoing and dynamic.*
  Assistant Principal

APPENDIX

ROY HIGH SCHOOL COMPREHENSIVE MODEL

MISSION STATEMENT

The mission of Roy High School is to help the learner acquire skills and knowledge to become a productive, ethical member of society and enjoy a healthy life-style.

At Roy we learn how to learn, make informed decisions, and resourcefully cultivate the educational environments which meet the needs for today and tomorrow.

SCHOOL STANDARDS

Communication	Critical/Creative thinking	Social and Personal	Self Motivation and Adaptability	Preparation for Post High School
+ Speaks and writes articulately and effectively. + Reads and Listens Actively. + Reads and evaluates information. + May use another language at an intermediate level. + Appreciates the relationship between language and culture. + Demonstrates a healthy sense of humor. + Able to formulate and express independent ideas.	+ Uses problem solving to gather information, make critical distinctions, and arrive at a decision. + Use knowledge from the past to explain the present and anticipate the future. + Applies social and scientific concepts to explain situations and find solutions. + Applies mathematical principles to solve a range of problems. + Understands cause and effect relationships.	+ Demonstrates an awareness of the visual and performing arts. + Contributes to service organizations. + Understands the importance of ethical conduct. + Works well with others. + Effectively manages time and demonstrates self-discipline. + Implements a plan for physical and mental health. + Recognizes own inherent value. + Demonstrates pride in work and institutions.	+ Demonstrates individual initiative. + Shows appreciation for diversity. + Understands career training options. + Demonstrates value for self and others. + Is responsible for own actions. + Uses positive work ethic. + Able to cope with change and adversity. + Has high expectations.	+ Understands every day economics. + Cultivates marketable skills. + Can use technology to produce professional results. + Demonstrates the ability to continue learning. + Has a complete portfolio. + Is competent in the interviewing process.

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

METRO TECH VOCATIONAL INSTITUTE OF PHOENIX

CASE STUDY REPORT

Prepared by:

Anne Rogers and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Metro Tech Vocational Institute of Phoenix, Arizona, the week of April 12-16, 1993. We were interested in considering how a vocational-technical school that served disadvantaged populations operated a school-to-work transition program. We were particularly drawn to Metro Tech for its history of successful business partnerships.

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INTRODUCTION

This case study considers school-to-work transition initiatives at Metro Tech Vocational Institute of Phoenix, Arizona. Metro Tech is a vocational-technical school that attracts 1,500 students from across the city, two-thirds of whom are based at one of eight comprehensive high schools, one-third of whom either have dropped out or have never enrolled in high school. In the 1992-93 school year, Metro Tech offered close to fifty vocational and career programs.[1]

School-to-work at Metro Tech is not a single reform or innovation, but rather a collection of elements held loosely together by a vision for accomplishing fundamental school reform. These elements include work-based learning, infusion of academics into vocational skills training, technology-based instruction, and business partnerships. Much of the current reform effort was made possible by the administration's successful pursuit of additional funds, with which the school is paying for staff development, instructional aides, new hardware and software, and a campus technology center.

The defining fact of life for Metro Tech is its student population. Urban and multicultural, many students are recent immigrants. More than half belong to minority ethnic groups: one-third are Hispanic; nearly fifteen percent, black; more than three percent, Native American; and two percent, Asian. Their average age is 19. Some cannot read or write even in their native languages. Many must work to support their parents or their children. Some are homeless. Others have gang connections or criminal histories. These and other social circumstances demand the school's attention and shape its approach to school-to-work reform.

This case study of school-to-work at Metro Tech is organized into six major sections. Following this introduction, the report describes the social and institutional contexts within which school-to-work at Metro Tech has evolved. The next three sections profile the systems that support school-to-work, the learning that occurs in the school, and the learning that occurs in workplaces. The fifth section considers the impact of these activities on students. The final section analyzes the factors that have contributed to Metro Tech's successes.

This case study is based on the work of AED/NIWL's research team. Two researchers made a site visit to Metro Tech the week of April 12-16, 1993, conducting interviews with students, instructors, counselors, administrators, and employers; observing students in classroom settings and instructors in staff development workshops; and collecting documents.

CONTEXT

> *As the schools go, so goes the city.*
> Administrator

To appreciate school-to-work transition efforts at Metro Tech requires some understanding of the larger contexts within which these efforts operate: the city of Phoenix, the school district, the student population, and the institution of Metro Tech itself. Citizens of Phoenix face the future with apprehension. Phoenix enjoyed a prosperous economy, based on its thriving resort, manufacturing, and electronics industries, well into the 1980s. More recent years brought recession and rapid population growth, contributing to the transformation of Phoenix into a metropolitan area whose social ills range from traffic and smog, to poverty and homelessness, to family breakdown and gang influence. In short, Phoenix offers a microcosm of what the United States is becoming, and the educational challenges the country will face in the year 2000 and beyond.

> *Part of what has allowed us to be innovative is that we're dealing with the castaways.*
> Administrator

Metro Tech is both the Phoenix Union High School District's vocational high school and the place of last resort for many young people. Anyone aged 16 to 22, who resides in the district and has never graduated from high school, may attend Metro Tech. Its student population reflects Phoenix's changing demographics, causing the school's mission to shift toward the recovery of dropouts and other young people unlikely to succeed in a comprehensive high school.

About 20,000 students are served by the school district through its nine high schools and eight alternative programs. Two-thirds of Metro Tech's 1,500 students are based at one of the eight comprehensive high schools, earning their academic credit at that campus and commuting to Metro Tech for vocational classes, for which they earn elective credits.

The remaining 500 students at Metro Tech, however, are called "Metro-onlys." These young people, an increasing proportion of Metro Tech's population, include dropouts, GED-holders, and recent immigrants. Whether referred to as the school system's castaways or as discouraged learners, they face a host of barriers to education that demand innovation from Metro Tech. Their age averages 19. Most must work. One-third have significant family responsibilities. Many young women have given birth to two or more children. Some students are illegal immigrants. For many, English is a second language. (The district estimates that one-fourth of its Hispanic students speak little English.) Some students are barely literate in their native languages. Poverty, homelessness, and family instability are common. Many have experienced failures that have left them lacking basic academic skills and fearful of school.

Serving this population fuels Metro Tech's school reform. To motivate students for whom employment is a necessity, the school offers work-based learning and forges business partnerships that provide real connections to the labor market. To reach students with histories of failure in traditional classrooms, the school is introducing technology-based instruction across the curriculum. To address the academic weaknesses of students, the school has made academic infusion into all courses a priority.

Yet these innovations, designed to improve service to a disadvantaged population, represent a fundamental school reform that in fact offers richer educational opportunities to all students. Reform, not remediation, is the vision espoused by the principal, who envisions his school on the path to becoming a "nontraditional comprehensive school."

Metro Tech's history of reform and innovation dates back to the early 1980s, but the event that underwrites the current movement is a $5 million, three-year grant to the school district under the Carl Perkins Act, which commenced with the 1991-92 school year. Metro Tech administers "The Fusion Project," the comprehensive cross-district mobilization supported by this grant, whose purposes are to (1) ensure that special populations students (defined as economically disadvantaged, emotionally disadvantaged, ESL, or disabled) have access to, and succeed in, vocational education; (2) integrate academics into vocational programs; (3) incorporate technology into vocational programs; and (4) provide career planning services to vocational students.

Most of Metro Tech's students fit into at least one of the special populations categories. It is for this reason that the Fusion Project has special importance for Metro Tech, even though the grant addresses vocational education throughout the district. Metro Tech has become the district's haven for special populations, as well as its lead institution for vocational education.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

> *We're the market-driven school of the nineties. Students walk if we don't do a good job.*
> Administrator

The basic institutional structure of Metro Tech differs little from vocational-technical high schools across the United States. But the school has adapted that structure and its systems to respond to the circumstances of its clients, the student population, and to reflect its vision of what those clients will need to succeed in life. From scheduling to staffing to connections with business, Metro Tech attunes its systems to students in transition.

And for these students, the first and perhaps more difficult transition is the transition from their out-of-school world--dead-end jobs, unemployment, single parenthood, or the streets--into school. So Metro Tech offers flexible scheduling that acknowledges the demands of work, family, and transportation faced by their students. Although classes begin in September, students may enroll in most vocational programs at the beginning of any of the six-week terms. The school offers courses mornings, afternoons, evenings, and occasionally, weekends, requiring its doors to stay open fourteen to sixteen hours a day. Classes meet in two and one-half hour blocks mornings and afternoons, and a separate evening school operates between 3:20 p.m. and 8:35 p.m. four days a week.

Recognizing that many of these young people face school with fear and hostility, as well as inadequate skills, Metro Tech requires that anyone hoping to enroll, and not already enrolled at a comprehensive high school, must attend the WINGS program, a comprehensive three-week orientation and assessment. New WINGS programs begin two weeks before each six-week school session. The process begins with an assessment interview to determine whether Metro Tech is indeed the best placement for that student, and includes campus tours, academic and vocational assessment, and study of employability skills. About four hundred students completed WINGS in the 1992-93 school year.

Once students are enrolled at Metro Tech, they have access to support services, staffed by five school counselors, a social worker, and counselors funded by the parole and probation services. Staff report they are overwhelmed by the social, emotional, financial, educational, and employment issues their students confront. Although they believe WINGS helps many students, they would like to see it strengthened to include more substantive assessment and follow-up. To extend their reach, counselors tap the counseling services of home schools and community agencies.

The physical safety of students and staff is a top priority, because administrators recognize that the school's geographic location and the presence among the student body of gang members and probationers place the campus at risk for crime. The administration enforces its policy of no tolerance for gang activity, and acquired the tacit agreement of gangs that the Metro Tech campus would be a neutral zone. Indeed, the site visitors observed no gang graffiti or evidence of hostility among students. The school closed its student-staffed credit union, however, after several robberies, not thought to have been committed by students.

The staffing structure at Metro Tech balances central direction with decentralized responsibility for individual vocational programs. The principal and two assistant principals perform the typical duties of top administrators, but also communicate and promote the school's priorities: academic infusion of vocational curricula, technology-based instruction, etcetera.

The next tier on the organizational chart are the five cluster managers, instructors elected by the instructional staff of each cluster to a three-year term as managers of that cluster. (A cluster is a grouping of vocational programs and services.) Their basic role is to help teachers become more effective, especially important in a school which regards industry experience as a primary factor in selecting instructors, and teaching experience as secondary. Cluster managers assist with pedagogy and curricular issues, management of funds, and advisory committees.

Metro Tech's instructors teach, design curriculum, and assess students, but these responsibilities are only part of their role. About three-fourths of new teachers hired bring current industry experience, reflecting the school's purpose of offering its students vocational training closely tied to the realities of the work world in their chosen career field. Teachers provide students with their first and most consistent contact with industry. Metro Tech's teachers are also expected to provide more intensive, one-on-one assistance to students, a priority reflected in the school administration's battle to maintain Metro Tech's teacher-student ratio at one to twenty-four, in a district whose average is one teacher to thirty-five students.

Instructors at Metro Tech also serve as the safety net for students. Because of the low teacher-student ratio and two and one-half hour block scheduling, teachers spend many hours with students, often coming to know them well. As one counselor observed of teachers: "They are social workers and parents, and often the only source of stability for the kids." Students spoke of their instructors not only helping them prepare for exams or cope with learning issues, but figure out how to cope with personal problems so that they could stay in school. Students in the law enforcement program spoke of feeling as if they were part of a family. Others reported that their instructors treated them like adults, not like children. It is not uncommon for teachers to consult with the social worker about how best to handle such a problem, thereby extending her expertise. Yet it also seems that instructors, while playing the role of parent or best friend, manage to keep the relationship focused on motivating students to stay in school.

The Fusion Project added another dimension to the instructional staff by providing for the hiring of twenty-three instructional aides district-wide, of whom seven were assigned to Metro Tech. The primary role of the aides is to interact with individual students, providing one-on-one assistance in the classroom, offering students another source of contact with reliable and competent adults. Because so many Metro Tech students speak Spanish, the district hired some Spanish-speaking aides and ran a thirteen-day Spanish language and culture immersion workshop in summer 1992 for the others. Workshops were also offered during the school year on topics like learning styles and word processing.

The crucial role played by instructors carries over as students begin the transition to work experience. Instructors serve as both coaches and gatekeepers, preparing students for the workplace but refusing to recommend students they judge to be ill-prepared. They teach technical skills, job application procedures, and good work habits. Some instructors use their personal networks of industry connections to locate jobs for students, augmenting the work of the job placement office. The Culinary Arts Program issues a weekly bulletin describing job openings in the resort and restaurant industry, for example.

Besides its instructors, Metro Tech sustains two main channels for connection with business: advisory committees and the job placement office. More than five hundred business representatives serve on the Metro Tech advisory committees, required under the Perkins Act for each vocational program, which meet three to twelve times a year. The instructor and appropriate cluster manager work closely with the advisory committee as it advises and assists in program planning, development, and evaluation.

The job placement office helps students find jobs during their Metro Tech training and secure full-time employment upon graduation. The placement office reinforces the coach-and-gatekeeper role of the instructor by only serving students referred by a teacher. The office notifies that teacher whenever they inform the student of a job opening, expecting the teacher to follow up with the student. The placement office also holds group sessions for students on the basics of applying for employment, including manners and appearance. With new funds under the Fusion Project, the placement office expanded its services to the entire district, hired a job developer to work with local employers in developing new employment opportunities, and hired two placement assistants to travel among the high schools, ensuring that each has a job placement staffer on-site at least once a week.

Another role played by the supervisor of job placement is the recruiting and support of business partnerships. Although businesses that serve on advisory committees or hire students contribute in important ways, it is these partnerships between Metro Tech and individual businesses that secure the most intense and long-lasting commitments from industry. These partners not only offer expertise, but commit resources--their staff, training, funds, equipment--to Metro Tech programs. Such commitments include the partnerships between the Metro Tech Resort Occupations Program and Best Western International, and between the Computer-Assisted Design (CAD) Program and the designers of the Japanese Friendship Garden in downtown Phoenix. Partnerships with the AAA of Arizona and the Honeywell Commercial Flight Systems Group are profiled below under "Learning in the Workplace."

The goal of transition infuses the basic institutional system at Metro Tech, gearing the entire operation to seeing that students successfully enter the classroom, learn, and successfully enter the workplace, capable of lifelong learning. The barriers confronted by the school's students, each step of the way, demand creativity and commitment from the staff.

PROFILE: LEARNING IN SCHOOLS

> *My view is we're ripping kids off my letting them think they have the growth potential without academics. We're not telling them the facts of life. They'll flatline out.*
>
> Administrator

What motivates many to enroll at Metro Tech, especially Metro-only students, is the prospect of a paycheck. Metro Tech's leadership recognizes that students motivated by immediate financial need often fail to understand that their poor academic skills will trap them in routine, low-paying jobs. The fact that fewer and fewer students attending Metro Tech brought basic academic skills forced the staff to consider what could be done to remedy the situation.

This recognition has led to several initiatives intended to enhance the academic aspects of Metro Tech's curriculum. First, the evening school now offers academic courses required for high school graduation, including English, consumer mathematics, algebra, sciences, and history, in addition to vocational courses. Second, Metro Tech is attempting to infuse its entire vocational curriculum with academics, beginning with writing and mathematics. Third, Metro Tech has made technology-based instruction a priority for every class. Fourth, the school has begun to build bridges for its students to postsecondary training, in part through Tech Prep arrangements under development with Phoenix College.

Mathematics and Writing Infusion

Talk about infusing academics across the Metro Tech curriculum had circulated among the staff for at least five years before the district won the special Perkins funding for the Fusion Project. Acquiring the Fusion grant enabled the district to embark on a focused drive to integrate academics into vocational education at Metro Tech. The leadership chose as its primary strategy the application of writing and mathematics across the curriculum, a fundamental reform.

To implement the strategy, the leadership selected staff development: training vocational instructors to integrate writing and mathematics into their courses. Fusion Project funds paid for the special reassignment of four teachers, two mathematics and two English teachers, to offer after-school workshops for teachers and instructional aides. Teachers attending the workshops observed during the site visit were alert and involved, remarkably so for an after-school event. The group attending the writing workshop wrote job descriptions, business letters, and autobiographical sketches. In the math workshop, teachers carried out assignments related to measurement and computation.

The Fusion Project team of teachers also worked with vocational teachers individually, visiting their classrooms to demonstrate writing or math integration using the vocational teacher's lesson plan. Typical sessions included an exercise on separating judgment from observation, and another on writing a process paper describing how to change an automobile's oil. Less than three months after the Fusion Project began, the English teachers had worked with 25 teachers and 850 students, the math teachers, with 25 teachers and 545 students.

In addition to staff development, Metro Tech planned a six-week summer school in 1993 for 160 students from across the district who had failed both a semester of English and basic business. The curriculum integrated English and business, and passing students would receive one-half credit in each subject.

Technology-based Instruction

Technology-based instruction, another strategy for curricular reform underwritten by the Fusion Project, appears to be furthering academic infusion and technological literacy among students and staff. The grant has paid for new educational software, requested by teachers, and one additional student computer station for each vocational program.

Through training workshops, teachers learned software packages like Hypercard and Authorware, which enable them to write their own instructional packages, and produced videos. A Culinary Arts instructor, for example, wrote a program on how to fillet fish for students to use as a self-instructional tool.

Teachers who took the workshops signed agreements to produce a product that integrated academic content into vocational curriculum. Initially, the project paid instructors $1,000 for their products. Two teachers hired during the summer helped edit final products, which were all packaged to run on commonplace software and described in a curriculum materials catalog circulated through the district.

Metro Tech's new Technology Center, paid for through a bond issue, to be completed in the spring of 1993, will support the drive to use technology-based instruction to further academic infusion. The two-story building features computer pits, eight classrooms, a curriculum development center, and a distance learning center. Metro Tech saved more than $100,000 by having students build the furniture rather than purchasing it commercially. Metro Tech's administration plans to train teachers to use the technology and to require that students in every course use computers. By fall 1993, all Metro Tech programs were required to integrate keyboard and computer applications into the curriculum, with established minimum competency thresholds. The administration hired a business teacher to help the teaching staff become computer literate.

Postsecondary Education and Tech Prep

For many occupations, postsecondary education is the bridge that enables people to progress beyond entry-level employment into a career track. Metro Tech attempts to educate its students about postsecondary options and how these might be pursued.

One route is through the instructors. Industrial Electronics students learn about the DeVries Technical Institute, which offers advanced electronics training. Law enforcement students interviewed by site visitors understood what would be required to become a police officer, and spoke with clarity and confidence about such options as the military and community college.

Some employers reinforce the value of postsecondary training, directly and also by providing a context within which students observe the practical advantages of further education. A Big 4 Restaurant representative, noting her company's need for long-term employees, spoke of explaining to her student interns about scholarships for study at Scottsdale Culinary Institute.

Twenty-five Metro-Tech programs offer community college credit, most through articulation agreements with Phoenix College, a community college located a few blocks from Metro Tech and part of the extensive Maricopa County Community College system. Each summer, Phoenix College mails to 200-300 Metro Tech students a transcript of their earned college credits, along with a letter explaining whom to call at the college for information and assistance. The dean, however, believes that not more than fifteen Metro

Tech graduates actually enroll at Phoenix College each fall, indicating that students face other barriers.

At the time of the AED/NIWL site visit, Metro Tech and Phoenix College had begun planning for Tech Prep 2 + 2, intended to take the institutions to a new level of collaboration. Each campus has a Tech Prep coordinator, and the Tech Prep steering committee includes business people as well as faculty members and board members from both schools. Secondary students could earn certificates of advanced mastery, spelling out the skills acquired. In its first year, Tech Prep focused on law enforcement, commercial printing, and fire science, matching task analyses conducted at Metro Tech with course competencies established by Phoenix College.

PROFILE: LEARNING IN WORKPLACES

> *Everyday you learn something new .... We've learning more than we immediately need to know--but that's good.*
> Student working at Honeywell

In theory, most vocational programs offer actual or simulated work experience. Integrating work into the learning experience of students, however, is a more complex and demanding activity than simply placing students in workplaces. In practice, these work experiences vary greatly, both in their relevance to real employment situations and in the quality of learning they offer. Metro Tech provides students with work experience through student enterprises and a variety of internships.

Student Enterprises

Several vocational programs run businesses staffed by students on the Metro Tech campus, providing services to the neighboring community on a cost-recovery basis. Under the supervision of instructors, students perform skilled work, serve customers, and handle inventory, taking on real responsibility for managing and operating the business. For example, the Floral Design program operates Flowers By Tech, where students make floral arrangements and deal with customers. The Child Care program operates the Tiny Tots day care center, where Metro Tech students care for the children. The Culinary Arts Program operates the Metro Tech Cafe and a banquet services facility, where students prepare food, set up tables, and serve customers in a busy and pressured atmosphere.

Although these businesses operate on campus, they provide training environments that closely parallel actual businesses. Students cope with real customers, not just their peers. They do have the security, however, of a familiar place, instructors, and peers, among whom to experience work-based learning.

Formal Internships

Through partnerships with business, several vocational programs offer formal internships to students. These internships are usually unpaid and rarely last longer than three weeks. Paid employment, however, often becomes an option for students who do well in their internships.

The internship arrangements vary from one business partner to another. For example, Metro Tech has had a five-year partnership with AAA of Arizona, which provides seven three-week unpaid internships to first-year students in the Travel and Tourism

Academy. Students must interview for these internships, which provide on-the-job training in emergency road service or in membership services, teaching research skills, computer systems, and Trip Tix procedures. Students acquire both references and transferable skills. AAA also offers six paid summer internships. The organization has hired some interns as regular employees.

A more recent partnership, between the Big 4 Restaurants of Phoenix and the Culinary Arts program, provides internships for students in the kitchens of the city's most well-known restaurants. The Big 4 have taken on ten to twelve students at a time, for two- or three-week internships. Within the first year, they hired three as regular employees.

Partnerships also lead to employment for Metro Tech students with exceptional needs. About one hundred students with special needs are mainstreamed into Metro Tech classes; another eighty take part in the seven occupational programs dedicated to special needs students (Exceptional Student Programs). These programs sustain partnerships with Goodwill Industries, the Pointe Resorts, Denny's, and five hotels, through which the companies provide fifteen days of training without pay to students. For example, Metro Tech's START program, which operates in conjunction with Culinary Arts, teaches special needs students to operate industrial laundry equipment, prepare food, and keep kitchens clean and hygienic. They work alongside Culinary Arts students, but perform distinct roles.

Partnerships with Business: The Examples of AAA and Honeywell

> *It has to do with the vision of the company. It is crucially important who is chosen to do this, because it requires a lot of extra time--you have to make it work.*
>
> Honeywell manager

Many of Metro Tech's most successful efforts to create integrated work experiences for students have come about as a consequence of an exceptional partnership with a major business, such as those with AAA of Arizona and the Honeywell Commercial Flight Systems Group. AAA and Metro Tech's five-year partnership has incorporated both work experience and the company's training program into the school's Travel and Tourism Academy.

What initiated this partnership was AAA's frustration over its difficulty in recruiting and retaining entry-level employees. AAA called a meeting of area vocational schools to explain their need and their interest in working with educators, but only Metro Tech immediately responded to the company's initiative. AAA representatives were favorably impressed by Metro Tech--its professionalism, its campus, the pride of students and staff--and began discussions with Metro Tech's job placement supervisor about how best to work together.

Together AAA and Metro Tech devised a unit to teach first-semester Travel and Tourism students the competencies needed to qualify as a AAA Member Service Representative trainee. To complete the unit, students prepare an application and interview for the AAA internships. AAA staff come into the classroom the first day to introduce the company and subsequently teach segments of the curriculum. They also try to inculcate in the students a sense that from the first day, "You're interning with us," by saying to the class, for example: "You've just failed your first interview. You're not dressed appropriately." In this way, although only students who win internships acquire experience in the workplace, all students gain exposure to the AAA environment. The instructor also uses the successes and failures of interns as topics for learning in the classroom.

The partnership is well-established, but not routine. During the site visit, AAA and Metro Tech representatives agreed to meet about issues concerning the second-year course. AAA had also recently initiated a new activity in the elementary schools, talking to students about making choices.

The Honeywell Commercial Flight Systems Group (CFSG) has worked with Metro Tech since 1990, a partnership that completely transformed the school's Industrial Electronics Program. CFSG has contributed $40,000 as well as technical assistance, work stations, tools and materials, instructor retraining, and work experience training sites within its avionics division.

The Industrial Electronics Program has two instructors, one of whom teaches basic electronics and theory, the other, hand-soldering and assembly according to Federal Aviation Administration standards. The second instructor is a retired Honeywell supervisor, with more than thirty years of experience in production and training. Honeywell provides his salary and his training. He teaches students (in a laboratory built by Metro Tech to replicate an actual production setting) exactly what a new Honeywell employee would learn in the company's training program, preparing them for employment as assembler trainees in the CFSG.

Honeywell entered the partnership with Metro Tech committed to hiring graduates of the Industrial Electronics Program. The recession in the aircraft industry hurt the CFSG severely, however, forcing employee lay-offs. Nevertheless, CFSG hired twenty-one students from the program the first year and continues to find places for six graduates each year. Others find gainful employment elsewhere in the electronics industry, for although

Metro Tech's training is not precisely transferable to companies with similar operations, successful students have acquired skills and knowledge that make them attractive to such companies.

Those hired by Honeywell have opportunities for advancement within the company, particularly if they obtain further training. The Honeywell instructor believes that the Metro Tech training produces students not only more qualified than most job applicants, but more qualified than most people with five years of experience in the industry.

Despite the recession, the partnership between Honeywell and Metro Tech continues. Honeywell invited the instructor to take part, at no cost, in its employee training in teaming, which he planned to incorporate into the Metro Tech industrial electronics curriculum.

Honeywell's good experiences inspired the company to look for other ways to be involved with Metro Tech. Late in 1992, Honeywell initiated a mentoring program that by April 1993 resulted in twenty pairings between Honeywell employees and Metro-only students. Mentors maintain weekly telephone communication and spend six to eight hours each month for four months with their students, working together on educational, career, and personal goals. During that time, students visit with their mentors at the company for half a day.

The partnerships with Honeywell and AAA have apparently worked exceptionally well for students, for Metro Tech, and for these companies. In general, Metro Tech's business partners report that problems recruiting adequately qualified entry-level employees initially drew them into the partnership, hoping to alleviate these shortages with student interns and trainees. They worried about technical skills, but responsibility and work ethic as well. Indeed, partners report some successes along these lines. Even though interns require supervision, they provide a welcome extra pair of hands in a busy restaurant kitchen, for example. AAA, Honeywell, and Best Western report satisfaction with former students hired as regular employees. Companies also report unanticipated benefits, like improvements to AAA's internal training system that resulted from their work with the Travel and Tourism curriculum.

However, businesses that sustain a commitment to a partnership also appear to have, or to develop, a definition of success that incorporates an altruistic sense of giving back to the community. AAA employees like to teach Metro Tech classes for that "feeling of giving back." AAA will work with any student willing to try, its representatives say, regardless of that student's academic history. A Honeywell representative spoke of his personal satisfaction when a student decided to go on for advanced training. Honeywell agreed to target its mentorships to the neediest Metro Tech students. The advice these companies offer to others contemplating partnerships emphasizes, not the corporate bottom line, but patience, long-term commitment, and tolerance for the complexity of change.

STUDENT OUTCOMES

> *They'll ask us what's wrong, what's happening at home. They'll ask, is there any way we can help keep you here?*
> Student

Metro Tech has not had much success obtaining information about what happens to its graduates. The Arizona State Department of Education requires that schools conduct a follow-up of each class one year after graduation, which asks whether or not respondents are employed or pursuing advanced education, full-time or part-time, related to their Metro Tech course of study, etc. However, the school has great difficulty tracking down its graduates, achieving response rates of six to seven percent for mass mailings, fifty percent for telephone surveys. Moreover, the data that is collected offers only a summary rather than a rich measure of an individual's development.

For this reason, Metro Tech staff look at intermediate outcomes, and their own subjective assessment of these outcomes, to judge their impact upon students. Based on their own conversations with students and observations, they believe that, for some students, Metro Tech brings about significant improvements in attitude, expectations, motivation, and knowledge about career paths and training. As a result, they believe that about fifty percent of their Metro-only students go on to productive careers. Indeed, the site visitors interviewed students who spoke knowledgeably about the occupations for which they were studying, and realistically about the further training they would need.

As part of the Fusion Project, Metro Tech contracted with Arizona State University to assess whether their interventions resulted in academic gains by the students. They pretested all students in the district in English and in math in February 1992, and scheduled the post-test for May 1993. While the evaluation sought to measure change over a very brief period, it will provide the school with objective measures of intermediate outcomes across the student body.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Metro Tech initiatives, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Business Partnerships

> *Rather than complaining about the workers we get, how can we get down into the schools and change that?*
> Honeywell manager

Successful partnerships bring Metro Tech new resources and expertise that redound to the benefit of both the school and its students. An effective partnership revives a stagnant program or instructor. Businesses contribute money, equipment, and staff time, as well as their expertise about both the skills sought and the local labor market in their industry. Besides such generosity, the ideal business partner brings a collaborative attitude, a willingness to work with educators rather than to dictate how things should be.

Factors that contribute to the success of partnerships, identified by business and educators, include:

- school staff members with professional and positive attitudes

- a school administrator contact who responds quickly and attentively when business raises issues
- a close working relationship between the instructor and the business partner
- business commitment to the effort from upper management
- assignment of business staff to supervise student interns
- long-term rather than short-term commitment on both sides
- flexible rather than narrow views of student success

Like any collaborative venture, these partnerships require patience and mutual respect.

Barriers faced by Metro Tech to partnerships, identified by business and educators, include:

- resources required of both the school and the company, especially staff time
- the importance of the partner's having a sufficiently large and prosperous business to accommodate a number of students
- the conflict between the business view of the workplace as a site for production, and the school's view of the workplace as a site for learning.

2. **Comprehensive funding and plan**

Metro Tech staff are quick to point out how important the Perkins Act grant has been to their current reform efforts, especially to academic infusion and technology-based instruction. It has paid for equipment, software, released time, instructional aides, and teacher reassignment.

Factors that contribute to Metro Tech's success in planning and obtaining funds, identified by staff, include:

- an administration that has made pursuit of external funding a priority
- the school's commitment to populations targeted for special funding,
- new funds targeted to goals and strategies previously endorsed by the school
- funds applied in an institutional climate supportive of change
- a comprehensive plan and administrative structure created to manage the expenditure of the funds
- an administration that deliberately seeks the support and involvement of staff, helping them participate and rewarding them for doing so

Barriers faced by Metro Tech, identified by staff, include:

- time and talent required for pursuit of external funding
- time and focus required to conduct strategic planning in an environment in which simply keeping the operation afloat can be difficult.

3. A history of visionary and effective administrators

Staff at Metro Tech report that since the early 1980s the school has operated under the leadership of administrators who have pursued the goals of quality vocational education, partnerships with business and industry, and physical and technological improvements to the school's physical plant. These leaders are credited with setting the overall vision for the school, with the financial savvy to pursue funding, and with knowledge of educational reform strategies. Yet the individual vocational programs have considerable independence in developing curriculum and working with business partners.

Factors that contribute to success, identified by staff, include:

- knowledgeable, visionary, and effective administrators
- timely conjunction of funding and leaders
- balance between effective central school administration and local program control

Barriers faced by Metro Tech, identified by staff, include:

- external political pressures upon administrators
- competition among schools within the district for resources
- resistance to change within the district and the school

4. Instructor leadership and commitment

> *If you mess up, they'll say that's okay, and show you how, let you correct your mistake and still feel good about it.*
> Culinary Arts student

Metro Tech's teachers play a leading role, as instructors in the classroom, as counselors and motivators of students, and as links to the business world. It appears to be the case that the stronger vocational programs are those that have instructors who combine these qualities. Metro Tech also provides resources and recognition to its teaching staff.

Factors that contribute to Metro Tech's success, identified by its staff, include:

- hiring teachers with industry experience
- administrators who provide on-the-job assistance to new teachers with little teaching background
- a low teacher-student ratio
- staff development time for workshops

- new computer equipment and new software, as well as technical assistance in its application
- instructional aides in classrooms
- teachers recognized and respected as experts on their industry and as the primary support system for students
- decentralized management structure and style, allowing teachers independence and creativity

Barriers faced by Metro Tech, identified by staff, include

- costs of pedagogical support--staff development, technology, software, aides, and technical assistance
- resentment from teachers at other schools regarding the student-teacher ratio

5. Pedagogical style characterized by applied or contextual learning

Many of Metro Tech's teaching staff appear to have adopted styles of teaching conducive to applied or contextual learning, in part because of the occupational emphasis of the school, but also because many of Metro Tech's students have failed in traditional classroom settings. The staff do not yet have quantitative outcome data to measure the impact of their teaching approach upon students, although the Fusion Project may produce some relevant data. But Metro Tech has successfully returned many students to the educational system and graduated some portion with occupational skills.

Factors that contribute to the success of Metro Tech's pedagogy, identified by staff, include:

- its appropriateness for the learning styles of its students

- low student-teacher ratio
- administrative support and leadership
- resources (funds, materials, technical assistance)

Barriers faced by Metro Tech, identified by staff:

- the strong bias towards traditional classroom approaches to teaching among many teachers and administrators
- most curriculum packages are designed for traditional classroom approaches, requiring teachers to develop their own curricula if they wish to teach in more applied or contextual approaches

Metro Tech has implemented an array of strategies to achieve a successful school-to-work transition for a student population hampered by many economic, educational, and social disadvantages. The school's success illustrates how much depends, not simply upon finding and adopting a sound school-to-work transition model, but upon attention to building sound relationships with business, on teaching approaches that truly serve students, and on a staff with the expertise and resources to handle multiple responsibilities. In selecting Metro Tech as one of the fourteen sites for this study, we were interested in understanding how a vocational-technical school might go beyond the approaches typical of these institutions to devise effective school-to-work approaches for its students. In practice, we found an institution committed to a broad vision of school reform, embarked on the implementation of an array of options, and cognizant of the institutional support required for these options to succeed.

ENDNOTES

1. Including programs in Accounting Technology, Administrative Support/Secretarial, Advertising Design, Air Conditioning, Architectural Drafting, Automotive Collision Repair, Automotive Technician, Banking/Finance, Building Engineering and Maintenance, Business Technology, Carpentry, Child Care, Commercial Photography, Commercial Printing, Communications Technology, Computer-Aided Drafting/Design, Cosmetology, Culinary Arts, Electrical Wiring Trades, Fashion Technology, Fashion/Interior Technology, Fire Science/EMT, Floral Design and Marketing, Health Careers, Industrial Electronics, Interior Design, Law Enforcement, Machine Drafting, Machine Technology/CAM, Manual Communications with the Deaf, Marketing/Merchandising, Masonry, Nursing Assistant, Plumbing, Practical Nursing, Resort Occupations, Retail Management/Merchandising, Travel/Tourism Academy, Truck and Diesel Repair, Welding, Word Processing. Seven programs are designed specifically for exceptional students, although such students also may enroll in other Metro Tech programs: Business Prep, Enterprise Program, Goodwill Work Adjustment Program, Jobs in Industry, Practical Building Maintenance, START Program, and Technology Preparation.

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

ROTHSAY, MINNESOTA SCHOOL-BASED ENTERPRISES

CASE STUDY REPORT

Prepared by:

Anne Rogers and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Rothsay, Minnesota the week of May 10-14, 1993 to study its school-based business enterprises. We were especially interested in how these enterprises contributed to the learning of students and their transition to the postsecondary world.

ACKNOWLEDGEMENTS

Our thanks go first to Tom Fosse, school-community coordinator, who organized the AED/NIWL site visit to Rothsay and spent considerable amounts of his own scarce time with the site visitors. Gary Zirbes, high school principal, and Dennis Hanson, K-12 counselor and elementary school principal, and the rest of the school staff and students went out of their way to be helpful. Robert Block, superintendent of the district, provided an insightful briefing on the political realities of education in Rothsay.

We also want to extend our appreciation to the instructors who welcomed us to their classes and lunchroom gatherings, and spent considerable time answering our questions. Randy Balken, business teacher, introduced us to the Storefront he and his students manage. Susan Ward walked us through the changes she has made in her English curriculum with clarity and enthusiasm. We also learned from our interviews of Bill Rose and Perry Reinertson. Deb Jorgensen and student managers Nichole Aksamit and Brian Marquardt cheerfully tolerated our frequent presence at Tiger Mart. Stephanie Moen, CEO of Tiger, Inc. discussed the corporation with us and invited us to a corporate meeting. Local businessmen Dave Emery and Lester Martinson explained their motivation for teaching their skills to students. Many students at Storefront and Tiger Mart explained to us their roles in the enterprises and what they felt they were learning from the experience.

Lastly, our thanks for their hospitality to all the residents of Rothsay, many of whom we met during the course of five days and many meals at the coffee shop.

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INTRODUCTION

In Rothsay, Minnesota, a community's drive to save its independent school system and its businesses spurred the school board to purchase and reopen the closed hardware store, replacing the high school's business simulation class with the opportunity to run a real business. This unusual step was the first of several that evolved into what may be a unique school-to-work transition effort. The hardware store became a profit-making enterprise that engages juniors and seniors in all aspects of its operations. In addition, a student-run corporation, Tiger, Inc., took over the operations of the failing Rothsay grocery store, providing other avenues for students to experience entrepreneurship and leadership. These and other new enterprises designed to give students workplace experience, while sustaining the business sector of Rothsay, are profiled in this case study.

Rothsay's enterprises captured significant media attention, not only within the state but nationwide, from the popular as well as the educational media. No doubt this interest in tiny Rothsay (population 450) stemmed in part from its appeal to classic American mythology: a small community of pioneer people, clinging to their way of life on the edge of the prairie, through independence and entrepreneurship resist the forces of economic and educational centralization that dissolve communities. Rothsay offers, in actuality, a more interesting case study in community survival than the old myth suggests.

Can the reforms attempted by a place as unique as Rothsay be adaptable to schools and districts in suburbs and cities whose circumstances seem very different? It is unlikely that any other school could adopt Rothsay's approach wholesale, but then that holds true for all the reforms profiled in this series of fourteen case studies. Much of what has succeeded for

Rothsay does indeed hold lessons for other educators, lessons perhaps made more obvious by the small scope of the community in which they have been learned.

CONTEXT

Everyone knows everyone and their business.
Administrator

Any attempts to introduce change into Rothsay are shaped by how few people remain in the community and how close-knit that aging population is. Locals estimate that more than half Rothsay's population is over 55 years of age, yet most of the town attends performances of the band at a school from which their own children have long since graduated. Visitors to Rothsay hear the same Norwegian surnames repeatedly, and people are very proud of their Scandinavian heritage.

Economically the area is land rich, and farming yields comfortable incomes. Typical of small towns across the United States, however, Rothsay has lost most of its small businesses in the past twenty years, unable to compete with the larger chain stores opening in towns a short drive along the interstate. The retail district in 1993 consisted of the grain elevator, truck stop, bank branch, and student-operated hardware store and grocery store. Rothsay School, with forty staff members, is itself a major employer.

For years, Rothsay fought the Minnesota state mandate that small school districts--those with fewer than 1,300 students--must consolidate. Rothsay School enrolled 265 K-12 students in the 1992-93 school year, with sixteen graduating seniors in 1992, nineteen in 1993. There are twenty-two teachers, enabling the school to maintain a one to fourteen teacher-student ratio. Rothsay has fought consolidation by pointing to the academic success of their students: ninety percent pursue postsecondary education, eighty-two percent graduate from college, ninety-one percent engage in an extracurricular activity, and daily attendance averages ninety-six percent. Rothsay also issued a challenge that has yet to be met: to any district of more than 4,000 students that could match Rothsay's performance on these criteria, they promised to award a $500 scholarship.

Many in Rothsay, however, believe that what has saved their school from consolidation is national and international media attention to its student-operated businesses. It would simply be too embarrassing for the state to close down a school that has attracted such positive press. Peter Jennings featured Rothsay on "World News Tonight," and a PBS profile on "Market to Market" held Rothsay up as an example of the resilient small town. Rothsay students testified before the April 1993 Congressional hearing in Minneapolis. Readers Digest honored two school leaders as "American Heroes in Education" in spring 1993, an award that brought $10,000 to the district and $5,000 to the honorees. Rothsay won first place in the National Federation of Independent Business Foundation's National Awards Program in the secondary education category. All this attention generates an average of 150 inquiries to the school each month.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

> *That's the way we do things in Rothsay: there's not a lot here.*
> Businessman

Rothsay's student-operated businesses did not get their start as part of any grand scheme for school-to-work transition reform. In 1987, the town's lumber and hardware business closed down. One year later, unable to dispose of the property (located one block from Rothsay School), the real estate agent approached the school board offering such a low price that they agreed to the purchase, planning to use the property for storage or classroom space.

It was after purchasing the property that two school board members came up with the idea of reopening the store as a viable business and incorporating it into the curriculum in place of the business simulation class. Their vision was that by operating the business, students would gain valuable educational opportunities and provide a community service to Rothsay, whose businesses were dying one by one.

What became the Storefront hardware and lumber business opened in October 1988, the first step in the array of transition reforms in which the school subsequently became involved. The school board, at the urging of the superintendent, established a Long-Range Strategic Planning Committee of thirty members in the fall of 1990 to consider the future of Rothsay's school. They produced a plan to expand the Storefront concept and pursue more business and community partnerships.

Yet what evolved subsequently in Rothsay was less the product of a strategic plan than the result of creative responses to community problems, guided by the principles of entrepreneurship and student empowerment. The closing of Rothsay's one grocery store in 1991 inspired a second attempt to help the community by encouraging a small business run by students (the Tiger Mart). The fire marshall's declaration that same year that the school building was not up to code led to the decision to purchase and renovate an old motel to create new, technologically up-to-date classroom space as well as lodging for foreign students (the Rothsay Learning Institute). What is compelling about how Rothsay solves its practical problems--no grocery store, no school building--is that its citizens find ways to transform problems into opportunities for innovative education.

Carrying out these reforms has been the responsibility of the school staff and board, added to their regular duties. For example, the business teacher is also the general manager of the Storefront; he does not simply teach there. While this is typical of many school systems, it should be noted that Rothsay's staff already wear many hats. Teachers, for example, commonly prepare for six separate courses each day as well as extracurricular activities. Rothsay's elementary school principal is also the K-12 counselor and works one day a week in the neighboring district. The superintendent, high school principal, and business manager also split their time between districts.

To help implement the reforms, Rothsay did create the new, temporary position of school-community coordinator, underwritten by grant funds. The school board member who initially proposed the Storefront was hired to troubleshoot problems, deal with media, and advise the student-run corporation and its grocery store. Flexibility is the basic requirement for the position, which has required the same person both to write grants and serve as general contractor for the motel's renovation.

School board members at first provided strong and consistent support for the reforms, whose first step, the Storefront purchase, they had initiated. The board authorized the subsidy of the Storefront's inventory for several years and paid $9,000 to resolve Tiger Mart's accounting problems. At the time of the AED/NIWL site visit, however, more conservative elements of the community appeared to be mobilizing to elect a back-to-basics board, a move that those involved believed could stop reform in its tracks.

Although Rothsay's business community is tiny and includes no major employers, the school has engaged businesses in various ways. Individuals like a retired meat-cutter and a heating and air conditioning expert have taught students their skills. The retired manager of the lumber yard mentored students at the Storefront. The Rothsay Community Development Corporation (RCDC) provided financing for Tiger Mart. The Otter Tail Power Company provided advice on energy conservation and two free months of electricity to Tiger Mart. A software distributer donated software and training to Storefront free of charge. The local bank and Tiger Mart's wholesaler have also provided assistance and advice.

Rothsay's successful pursuit of grants has purchased inventory for the Storefront and paid for entrepreneurial workshops, besides underwriting the school-community coordinator position. These monies have been extremely important to Rothsay, which, like many other small school districts, has faced a perilous financial situation for several years, a threat always in the background of its reform efforts.

PROFILE: LEARNING IN SCHOOLS

> *You witness how it helps students to do hands-on work.*
> Classroom teacher

Some teaching staff do not support the workplace initiatives, arguing that they do not have educational value. It is difficult to assess the extent of this opposition.

The integration of Rothsay's workplace initiatives with the learning that occurs in the school building is uneven. Seniors who study accounting in the afternoon and apply it during their mornings at the Storefront obviously have opportunities to bring together the learning that occurs in classroom and workplace. Connections between academic classes and employment at Tiger Mart are easier to discern for the student managers and accountants than for those stocking shelves or checking groceries.

The English curriculum at Rothsay, on the other hand, has changed because of the workplace initiatives. The teacher for reading, creative writing, and English in grades seven, nine, ten, and twelve reported that her observation of what students were learning through the Storefront and Tiger Mart led her to change her approach to an emphasis on performance-based skills. Her perception is that because such assignments are more creative and more meaningful, students put more effort into their work and get more satisfaction out of it. The seventh graders produced a newspaper about a book they had read instead of writing an exam. Older students created a portfolio on the topic of tolerance, including an annotated bibliography of both fiction and nonfiction. One class held a problem-solving debate on the selection of supply companies and vendors for Tiger Mart. An English class wrote a five-page synopsis of "the Rothsay story" to be entered into the Congressional record when Rothsay students testified before the April 1993 Congressional hearing in Minneapolis.

The establishment of the Rothsay Learning Institute (RLI) appears likely to encourage more integration of academic study with workplace learning. RLI came about in response to the sudden discovery in 1991 that the third floor of Rothsay's school building would have to be closed within two years, because of fire and accessibility violations which required renovations far too expensive for the system to afford. A citizens advisory group convened in winter 1991-92 recommended that Rothsay Schools purchase and renovate a motel, several blocks from the old school, and use it for classroom space, a far less costly alternative than the renovations.

The RLI proposal addressed the impending crisis of a classroom shortage, but, typical of Rothsay, the plan as it evolved would accomplish other educational purposes as well. Part of RLI's classroom space houses Rothsay's new technology center, which will offer training to students and connections to such systems as Oceanic, Internet, and Novanet. Besides its applications for the Global Trade Center, school officials hope the new technology center will provide improved communication, better research techniques, and, ultimately, a vehicle through which students could develop individual learning plans. Novanet, for example, provides access to many schools in many subject areas. It could offer a way for students in small schools, like Rothsay, to access information and expertise not locally available.

The RLI also includes dormitory space, intended to house foreign exchange students and young people wishing to enroll from other districts. This plan was set forth by citizens who felt it would benefit their children to have some exposure to other cultures. Although a variety of problems occurred during the first year of this experiment, the schools were determined to learn from the experience and try again.

PROFILE: LEARNING IN WORKPLACES

> *What these students learn is human relations, communication--you can't teach that in any class.*
> Teacher

The original step towards introducing workplace learning into Rothsay's curriculum was the purchase of the hardware store and lumber yard that became the Storefront. The decision three years later to reopen the grocery store under the management of a student-run corporation expanded workplace learning opportunities for students, but offered a significantly different model of student entrepreneurship. The planned Global Trade Center and its communication technology will offer yet another approach to engaging students in business development. What the initiatives have in common is the goal of providing Rothsay's students with hands-on business experience that emphasizes entrepreneurship and leadership.

Rothsay's juniors and seniors are eligible to take part in these enterprises. Those involved estimate that three-fourths or more of those eligible students worked at either the Storefront or Tiger Mart in the 1992-93 school year.

Storefront

Rothsay School owns the property upon which the Storefront is situated, but not its inventory. Nevertheless, the school and its board ultimately oversee its operations. Before the Storefront opened its doors in October 1988, the school took several steps to try to ensure its success, conducting a market analysis to assess whether the business could be viable and surveying the community to see what merchandise it should carry. They received a $30,000 grant for inventory from the McKnight Foundation's West Central Minnesota Initiative Fund, which would not have to be repaid if the business operated well for five years.

The Storefront, a combined hardware store and lumber yard operation, is open six days a week: Monday through Friday from 8 to 5 and Saturday mornings. Nineteen seniors, including eight from nearby Barnesville School, work one school period each weekday morning for academic credit. About one-third are young women. Three adults cover the other store hours, working for minimum wage. During the summers about three students, who apply and are formally interviewed, earn up to $2,700 working in the store.

Seniors take Storefront as either a year-long or one-semester class, carrying out real business activities like data base management, spreadsheet applications, accounting, payroll, inventory, and marketing. All inventory and accounts are computerized. Students rotate among jobs, which have specific classifications like advertising or office workers. Students with carpentry skills have also constructed special orders like picnic tables and a deck. The site visitors observed students arriving at the store and proceeding directly to different locations and beginning to work, as if everyone knew his or her responsibility and how to carry it out. Occasionally, someone would ask the instructor a question.

The operation is overseen by a business teacher who de facto serves as the store's general manager, for no extra compensation. He makes final decisions on inventory, recommendations to the school administration, and resolves problems. He also handles situations such as the two occasions on which the store took delinquent accounts to small claims court.

All the Rothsay seniors at Storefront take an accounting class in the afternoon with that business teacher. Their experience at Storefront is also structured to ensure that they learn as well as work on the job. The class meets four days at the beginning of each semester in a classroom for orientation and review of procedures. Their learning throughout the course is measured in two formal ways. At least once a quarter, they take a written exam that asks basic questions about store operations: preparing purchase orders, daily accounting procedures, and the like. Once a week, the instructor completes a ten-item evaluation for each student on such items as appearance, cooperation, and respect. Students rate themselves on the same form for particular strengths or weaknesses they assess in themselves.

Storefront's annual sales in 1992 were about $90,000. The inventory stood at $42,000, an increase realized by continually reinvesting profits in inventory. As all acknowledge, the operation has two big financial advantages: it pays no taxes, because it is owned by the school, and much of its labor is free.

The Storefront has no connection to Tiger, Inc.

Tiger, Inc.

A common thread throughout Rothsay's educational programs appears to be a respect for student ability and an intention of empowering student leadership. The AED/NIWL site visitors were continually directed to students for information and explanation. Whether this stance towards students predated Tiger, Inc., or developed from it, it seems to encourage reforms that engage students in roles demanding independence and leadership.

The students of Rothsay School founded their corporation, Tiger (Teenage Innovative Group Entrepreneurs of Rothsay), Inc. in April 1991. The corporation was established, at first, with the purpose of promoting enjoyable activities for students, but has evolved into an organization that encourages entrepreneurship in a variety of ways. Its main responsibility is the operation of Tiger Mart, but members of Tiger, Inc. also operate the Body Shop Fitness Center and run an entrepreneurial workshop for other school districts. Tiger, Inc. also performs some of the functions of a student governing body, organizing a dance, for example.

To belong to Tiger, Inc., students in grades seven through twelve pay a $5 membership fee, refundable upon graduation. Only juniors and seniors may sit on the nine-member board of directors. Four officers (CEO, vice-CEO, treasurer, and secretary) are elected at the annual corporate summer picnic. The officers have specific roles: the CEO, for example, runs meetings, gives tours to visitors, encourages new membership, oversees Tiger Mart, and resolves problems. The secretary is responsible not only for agendas and minutes, but also for legal documents such as bylaws and insurance, and other business correspondence.

Tiger, Inc. holds regular meetings run by the students according to agendas they develop. The corporation had twenty-nine members in 1992-93, of whom officers estimate eighteen were very active.

Tiger Mart. The most complex of Tiger, Inc.'s responsibilities is the operation of Tiger Mart. One month after the founding of Tiger, Inc., Rothsay's only grocery store closed its doors--the third time in twenty years the store had gone out of business. Residents were forced to drive thirty minutes to the nearest grocery store, a burden especially for Rothsay's many older residents.

With the guidance of Rothsay's school-community coordinator, Tiger, Inc. obtained a loan from the local branch of the American Bank and Trust Company. They leased the building and reopened the grocery under student management as Tiger Mart, in July 1991, only two months after it had closed. Most decisions are made by the store's senior management, which consists of two student managers and an adult manager who had worked at the store under its previous owners for fourteen years. Major decisions, like whether to change vendors, are taken to the Tiger, Inc. board of directors.

Located two blocks from the school building, Tiger Mart is open six days a week from 8-6 and on Sunday mornings. About ten students work at Tiger Mart, two as managers, the others in accounting or other roles. They work one of two class periods every weekday to earn academic credit. Students are paid minimum wage to work after school, weekends, and holidays. The adult manager works at the store weekdays until 3:30.

Compared to the Storefront, Tiger Mart's structures for student learning and evaluation are very informal. The most obvious difference, at the time of the AED/NIWL site visit, was that Tiger Mart had no supervising teacher. There was also no integration of formal class work or consistent process for student assessment. When asked, students described their status at Tiger Mart as "independent study," linked with various regular classes.

Observation at Tiger Mart suggested that some students were engaged in their responsibilities; others appeared at a loose end. The student manager role is defined: the two managers divide responsibility for paying bills, checking invoices and orders, completing monthly sales tax returns, doing payroll, setting work schedules, and ordering inventory. Managers earn credit for an independent study in Store Management, as an extension of a Marketing Occupations course. The hiring process for managers includes approval by the Tiger, Inc. corporation. Three or more students work as accountants, earning credit for an independent study in Accounting II. They keep books, file tax reports, close out the till, calculate the day's deposits, and make bank deposits.

Students do not take written examinations on their performance. Some reported that the adult manager evaluated their performance; others that the school community coordinator did. They may be asked to perform tasks, such as closing out the till, to assess what they have learned. But overall, assessment, like instruction, is extremely informal. Students learn by doing what they need to know to perform a job, and are evaluated according to whether the job is getting done. Those involved with Tiger Mart indicate "real life assessment"--such facts of life as either failing or passing a health inspection--as the measure of what students are learning.

Tiger Mart has had other problems. In the fall of 1992, Tiger Mart found itself in financial trouble. The grocery business is difficult at best, characterized by slim profit margins, competition, and health and freshness issues. Tiger Mart faced two additional problems: poor accounting practices and insufficient community support. Tiger Mart's accounts had fallen so far behind that students were writing checks not knowing their account balance, with predictable results. There was other evidence of managerial confusion, including the discovery that Tiger Mart's tax-exempt status had never been confirmed.

As fiscal agent for Tiger Mart's loan, Rothsay Schools stepped in, paying a professional accountant to straighten out the accounts and requiring a complete overhaul of its accounting system. A business teacher with some accounting background was assigned to the task, spending several hours each week in spring 1993 learning a new computerized accounting system as well as Tiger Mart's other financial systems. Beginning in the 1993-94 school year, he was to spend time every weekday at Tiger Mart, teaching students how to use the system and monitoring its development.

Entrepreneurial Workshop. The high school marketing class coordinates the entrepreneurial workshop sponsored by Tiger, Inc., first held in 1992, inviting students and educators from other Minnesota school districts. Their goals for the workshop were to explore entrepreneurial education, expand knowledge of resources and ideas, and introduce networking and technology for learning. The agenda for the May 1993 workshop included tours of Tiger Mart and Storefront and demonstrations of Internet and Novanet. The workshop was cosponsored by West Central Minnesota Initiative Fund, Rothsay School District, US WEST Communications, Center for School Change, and Otter Tail Power Company. They encouraged schools to send teams including two to three students, teachers (especially in business and computers), administrators, community leaders, and economic developers, at a cost of $15 per person. The two-day 1992 workshop was attended by about sixty people.

Body Shop Fitness Center. Two young women who had worked at Tiger Mart took the initiative to open a fitness and tanning center across the street from the grocery, also as a division of Tiger, Inc. A high school marketing class surveyed residents to assess demand for the business, what it should offer, and how much people would be willing to pay. Monthly memberships were sold to students ($8) and to adults ($12).

The Rothsay Schools play no role in the business. The Body Shop equipment is owned by the Rothsay Community Development Corporation (RCDC), from whom they have also received advice, and to whom they will eventually repay the financial assistance. Trainers from the Fargo Athletic club have taught them how to use the equipment and design fitness plans for individuals.

Global Trade Center

Rothsay Schools obtained a major grant from the New American Schools Development Corporation (NASDEC) to create the Global Trade Center, an initiative still in the planning stage at the time of the AED/NIWL site visit. Students make up one-third of the planning committee for the new enterprise. The concept for the center is the marketing of Native American art work to Scandinavian countries. Rothsay's citizens maintain close and extensive family ties with the Scandinavian countries from which their forebears emigrated. The Cass Lake School District, predominately Native American, agreed to coordinate the production of the art. The trade center will depend upon new communication technology, an aspect that connects its development to the renovation of the Rothsay Learning Institute.

Class in Heating, Ventilation, and Air Conditioning (HVAC)

A final example of Rothsay's approach to workplace learning underscores Rothsay's ability to take advantage of opportune events. A local man who runs his own HVAC business approached school officials about offering a class that would expose students to the basic principles, concepts, and equipment of HVAC. He was motivated to help students avoid the pitfall of attending a trade school or another postsecondary program for months and then realize they do not like the work for which they have trained.

Rothsay Schools quickly accepted his offer, and the class began meeting in February 1993, in the garage attached to the Storefront, with about eight Rothsay and Barnesville students. Students meet for two hours one day each week and practice on a motor unit in the classroom. The teacher's methods are interactive, practical, and hands-on.

STUDENT OUTCOMES

> *Students put more effort and more pride and more loyalty into their work when the work is meaningful.*
> Teacher

Rothsay has not systematically assessed the impact of these experiences on its students. The school's follow-up survey of its graduates and their employers, a year after graduation, does not yet reveal influences. The great majority of Rothsay students were college-bound before the introduction of the student enterprises.

Students themselves believe that taking part in these activities have clarified future plans, at least for some. A young woman who always intended to go to college has shifted her career goal from social work to business administration. Another has confirmed her plan to own and operate her own business. Administrators tell the story of a potential dropout whose employment at Tiger Mart helped him decide to go to college after all. None of the students interviewed had decided to become a grocer or hardware store owner: they value exposure to the workplace and training in generic skills like accounting and customer relations, rather than preparation for a specific career. Students viewed the work at Tiger Mart and Storefront as good experience for all students, not as something for a separate track of "vocational" students.

Because of the publicity generated by Rothsay's enterprises, many students have engaged in public relations activities. Those students appear to value the public speaking experience and seemed very poised and confident with the AED/NIWL site visitors.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Rothsay initiatives, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Entrepreneurial Approach

> *It seemed really great to me that we could run our own business.*
> Tiger, Inc. officer

The reforms in Rothsay are characterized by an entrepreneurial approach to problem-solving. Faced by a dying business sector, the school board bought a store and infused its operation with educational purpose. Faced by a classroom shortage, school leaders engaged the community in the search for space, then transformed a simple renovation project into a plan to introduce cutting edge technology and multicultural learning into their small rural school. Repeatedly, problems are transformed into opportunities for new educational experiences.

Factors contributing to the success of this entrepreneurial approach, according to those involved, include:

- a local culture that values entrepreneurship and self-sufficiency

- leaders willing to spearhead the new development
- access to the practical competencies needed to make small businesses succeed (accounting and other business expertise)

Barriers to the success of this approach to development include:

- continual oversight required to handle the operation and management of a business
- continual instructor oversight required to ensure that learning is integrated with student's worksite duties
- competition from businesses in neighboring communities
- the weak customer base of any business in a small community

2. Community school

You can't get lost here.
Rothsay teacher

The unusual character of the school in Rothsay has contributed to the success of its workplace initiatives, those involved agree. Community support for its school is intense. The original impetus for the workplace initiatives came from the Rothsay school board, and their implementation has required extensive involvement of the board and a couple of administrators. The small size of the school bureaucracy and student population has made implementing change less cumbersome. The fact that the two stores and the RLI are located within a few blocks of the school building, makes logistics and scheduling relatively easy.

Aspects of the school that contribute to the success of the reform efforts in Rothsay, according to those involved, include:

- strong and visionary school board leadership
- administrative support for reform

- community support for the school
- lack of an entrenched school bureaucracy
- academically strong school with few social issues
- few students

Barriers to the success of the initiatives include:

- pressure from the state to consolidate schools
- opposition from some school board and community members
- opposition from some teachers to curricular reform

3. Student leadership

> *Up front involvement of students is crucial to what we do.*
> Administrator

The principle that students should take leadership roles in their own education informs the basic concept of Tiger, Inc. as well as the entrepreneurial workshops and the planning for the Global Trade Center. Many of Rothsay's students report that these opportunities have helped them focus their sense of direction after graduation.

Aspects of student leadership that have contributed to the success of Rothsay's reforms, according to those involved, include:

- motivating students to participate
- contributing student perspectives to planning of new initiatives
- ensuring visible and public student support for reforms

Barriers that have hindered student leadership include:

- problems that result from student inexperience
- continual leadership turnover as seniors graduate

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

KALAMAZOO VALLEY CONSORTIUM EDUCATION FOR EMPLOYMENT

CASE STUDY REPORT

Prepared by:

Anne Rogers and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Kalamazoo, Michigan the week of March 15-19, 1993, to study the Kalamazoo Valley Education for Employment consortium. We were particularly interested in the consortium's off-site occupational programs and its history of cooperation across school districts.

ACKNOWLEDGEMENTS

It is not possible to thank all the people who contributed to the AED/NIWL team's extensive research in Kalamazoo. We met with more than sixty students and observed others, observed several committee meetings, and toured many schools. We met principals, superintendents, and program managers. To all of them, our thanks.

However, this report could not have been written without the assistance of Irv Cumming, assistant superintendent of Kalamazoo Valley Intermediate School District, and Tom Conor, Larry Rouse, and Jim Rudnick, area vocational directors for the consortium. All four gave generously of their time to organize a county wide site visit, to meet with the researchers, and to drive us from place to place, despite the snow and sleet of a Michigan winter. Dave Garrett, Val Putnam, and Sandy Standish also spent a great deal of time with us, explaining programs and introducing us to partners of the EFE. The instructors of the off-site occupational programs, Tammi Mallos, Nick Westra, Mary Wiersema and Kathy Wolf, met with us for in-depth interviews and arranged focus groups with their students. Business representatives and advisory committee members like Bob Thompson, Craig Schreuder, Robert Straits, and Bill Berghuis provided valuable insight into the contributions of business to the EFE and the reasons for their years of commitment. And thanks to Pat Reeves and Cinda Dorrance, for their insight into the role of district administrators in the EFE system.

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INTRODUCTION

In this case study report, we consider school-to-work transition within the Kalamazoo Valley Education for Employment Program (EFE), a county wide system that has coordinated vocational, career, and technical education throughout Kalamazoo County since 1986. The program is operated by a consortium of educational institutions, including the Kalamazoo Valley Intermediate School District (KVISD), the nine school districts in Kalamazoo County, and the Kalamazoo Valley Community College (KVCC).[1] Approximately 37,000 students attend public schools in these nine districts.

School-to-work in Kalamazoo Valley is a system developed over time to sustain the EFE's basic purposes: to provide career-technical education for all students, to engage business and industry as well as educators, and to engage postsecondary as well as secondary educational institutions. The system produces change by providing channels for people who know the state-of-the-art in business, industry, and education to apply their expertise to the review and reform of the EFE's instructional programs. Although the EFE incorporates many programs and activities, according to the its leadership, the system is the key element in its success.

Underlying the system are two fundamental assumptions at odds with the traditional view of vocational education in the United States: students should not be divided into college-bound and noncollege-bound, and courses should not be divided into academic and vocational. As the EFE continually strengthens its offerings, the whole system moves towards the realization of those two assumptions, strengthening the academic base of career-technical programs and encouraging all students to think in terms of careers and preparation for careers, rather than to view either high school or college graduation as sufficient goals in themselves.

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[1] The nine districts are Climax-Scotts Community Schools, Comstock Public Schools, Galesburg-Augusta Community Schools, Gull Lake Community Schools, Kalamazoo Public Schools, Parchment Schools, Portage Public Schools, Schoolcraft Community Schools, and Vicksburg Community Schools.

This report is organized into seven major sections. Following the introduction, the report briefly describes the history of EFE and of cooperation in Kalamazoo Valley. Next, the report profiles the systems that support the EFE programs: systems of staffing, governance, strategic planning, transportation, and so on. The following section describes school-to-work transition activities based primarily in the schools, including career assessment and planning. The next section profiles workplace-based programming, including EFE's off-site occupational programs. The next section considers whether the EFE has had significant impact on students. Finally, the case study examines the factors that appear to contribute to Kalamazoo's success, and possible barriers to their replication.

This case study is based on the work of AED/NIWL's research team. Two researchers visited Kalamazoo County during the week of March 15-19, 1993. They interviewed instructional and administrative staff, conducted focus groups with students, and observed classes and committee meetings.

CONTEXT

> *We have over twenty years of people communicating with each other through change.*
>
> Kalamazoo business leader

The Education for Employment (EFE) Program is the product of an evolutionary process, a fifteen-year history of collaboration across Kalamazoo County intended to reform its system of vocational education. The Kalamazoo Valley Consortium has its roots in a 1980 task force convened by a KVISD assistant superintendent to study the option of creating a consortium to deliver vocational education in the county's seven small rural school districts. The result of the study was a consortium, established in 1982, binding the seven districts to a fifteen-year commitment to cooperative vocational planning.

The original consortium expanded in 1986 to include the two other school districts in the county, Kalamazoo Valley Community College (KVCC), and the KVISD, and bound the members to a commitment through 1997. It required two years of study, politics, and planning, however, to achieve the agreement. Two major studies of K-14 vocational education in the county--one commissioned by its leading educational institutions, the other by the county chamber of commerce—recommended the expansion. The superintendents of the nine school districts and the president of KVCC agreed to a resolution to that end, secured the endorsements of their boards, and designated a planning committee. The planning committee worked for three months with a consultant from the National Center for Research in Vocational Education to assess the existing vocational program and devise an action plan for the new consortium, which, after extensive community review of the plan, was adopted as the basis for the new Kalamazoo Valley Education for Employment Program.

This glance at the history raises two important points made by staff of the EFE: the length of time required to build the EFE system, and the commitment to collaboration it represents. They point out that as long ago as the late Sixties, KVISD won a REMC (Regional Enrichment Materials Center) grant to coordinate systems across districts, in part because of its history of cooperation. By its very nature, of course, KVISD is a vehicle for cooperation, particularly for special education and vocational education, providing an array of services that small districts would have difficulty coordinating individually.

Some suggest that the spirit of cooperation that informs the consortium is a feature of life in Kalamazoo, characteristic of its institutions and leadership. The Upjohn Company, for years the center of civic life in Kalamazoo, has a tradition of community service. Borgess and Bronson Hospitals have cooperated on education for many years. The Kalamazoo Foundation tends to support collaborative efforts. The business community responded to the closing of a GM plant by convening a group of CEOs to assess the impact, consider steps, and mount a worldwide marketing campaign for the empty facility.

Another characteristic of civic life in the valley is an unusually stable leadership--in education, business, public and private sectors. Many people have held leadership positions for fifteen years or longer, and often serve on multiple boards with one another. Local observers believe that this familiarity and stability has resulted not in civic conservatism, but rather in a comfort with each other that makes change less threatening.

In other respects the valley has enjoyed stability. It is historically an economically healthy region, with such major industries as pharmaceuticals (Upjohn) and automotive (General Motors, Checker), as well as aircraft, paper, and health care. Within the county (population 220,000), the major population center is the city of Kalamazoo and its rapidly growing suburbs. The eleven high schools whose students are the primary clients of the EFE, are diverse in size and demographics.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

This is a system, not a structure, so it involves continual reevaluation.
EFE administrator

A theme to which the EFE leadership often returns is their system. The system is the complex interplay of organization and processes that seems to provide the EFE with both stability and a vehicle for continual and integrated change. The system is also informed by its leadership's commitment to applying the principles of total quality management.

The staffing for the EFE is flat rather than hierarchical. The assistant superintendent for KVISD is the head administrator. Three service area vocational directors, one each for the eastern, central, and southern sections of the county--are accountable to him. Within the scope of the EFE, the area directors have considerable freedom to develop programs and try new approaches.

Reporting to each area director are one or two vocational counselors, one or two workforce entry coordinators, and a secretary. The vocational counselors are each responsible for a set of career-technical programs and a set of high schools, providing assistance with career assessment and planning, employability skills training, personal relations, academic problems, and postsecondary education. The workforce entry coordinators work primarily with second year and apprentice students, assisting students through the apprenticeship enrollment process and monitoring their progress. They must coordinate their work with guidance counselors.

All fifteen of the EFE administrative staff, including the secretaries, take part in the strategic planning process. It begins with an annual "advance" (instead of retreat), a time for team building, goal setting, and planning. The outcome is an annual management plan that sets forth concrete visions for change within specific areas (for example, "all schools will grant academic credit for vocational education") and specifies steps for completing each vision, staff assignments, and timeline.

The area directors continue the process of strategic planning with their staffs, and monthly meetings are held throughout the year within each area and across areas among different staff groups. Guidance staff from all schools, for example, meet regularly. Instructors from the off-site occupational programs meet every month with vocational counselors and workforce entry coordinators to discuss common issues like articulation agreements and curriculum integration.

The tone is set from the top of mutual respect, teamwork, leadership, friendly competition, bold ideas, and visionary goals. Staff have a great deal of freedom to innovate, take risks, pursue their own directions. As one area administrator said: "What's good about my staff, I can just let them run it."

> *The administrators get out of the way and let great things happen.*
> Advisory committee chair

A network of committees sustains the EFE's philosophy of involving an array of people from business, industry, and education in review, assessment, and reform of EFE programs. First, the executives of the consortium members--nine school superintendents, KVISD superintendent, KVCC president--meet at least once a month as the EFE Executive Committee to make operational, budget, and major program decisions. These executives are in turn responsible to their boards. Thus the system sustains the active engagement of the consortium leadership.

Secondly, the system engages representatives from business, industry, labor, and education through the fifteen EFE advisory committees, one for each of the occupational areas and all the programs within it.[2] Committee members typically bring firsthand and current knowledge of the field. These committees meet at least twice during the school year to review, advise, and plan on the curriculum. They conduct a formal review of each program once every three years. They become advocates for EFE, providing good public relations and assisting in fund raising. EFE instructors and administrators staff the committees as nonvoting members.

The more active among the advisory committees wield considerable power, overseeing or even instigating major curriculum changes. For example, the office occupations advisory committee is guiding the transition from data processing to business services technology, a more comprehensive curriculum. The agricultural science advisory committee totally restructured the agri-science program, a complex, lengthy, and highly political effort.

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[2] Agri-science, auto body, auto mechanics, building trades, child care, commercial design, electro-mechanical, graphic arts, health occupations, hospitality, law enforcement, life and personal management, manufacturing cluster, marketing education, office occupations.

The advisory committee members also open up real-life experiences in business to students: cooperative education, mentors, job shadowing, mock interviews, and so on. They have spoken at career days, sponsored inservice training on office procedures for EFE teachers, volunteered to be "patients" for health occupations students practicing their skills.

Advisory committees are of course a common feature of vocational programs, but in many places contribute little. Members of EFE committees point to the competence of EFE staff and their continual support for the committees as the feature that makes a difference in Kalamazoo: their vision, commitment, and political savvy, their preparation of agendas, minutes, and research. EFE staff point to the importance of selecting the right people for committees and for supporting their work.

A third level of committee structure is the Kalamazoo County Council of Principals (KC COPS), established at the outset of the EFE because the cooperation and support of the secondary school principals would be so critical to its success. The committee meets monthly, and includes all eleven high school principals and the three service area directors. Its purpose is to provide a forum for networking, monitoring programs, and problem solving--especially problems of coordination among schools with different calendars, grading, transportation, even permission forms. KC COPS has also become a forum for discussion of professional development for principals and other issues.

Other committees serve important functions in the EFE system. The Workforce Entry Advisory Committee (ten business leaders and EFE educators) oversees EFE's workforce entry experiences, including apprenticeships, mentorships, and job shadowing. The Tech Prep Steering Committee, nine representatives of KVCC, EFE, and other vocational programs, oversees the Tech Prep program's development. The EFE Career Education Planning District Council, consisting of thirty-six representatives of business, industry, and labor, meets monthly to advise on the EFE program. For example, the council's Outcomes Task Force surveyed the local job market to identify generic expectations for employees and transmit this knowledge back to EFE staff. Council members view themselves as a conduit for better communication between schools and business and as role models for students.

In sum, the EFE network of committees channels and sustains communication and cooperation among the parties that are or should be concerned in its programs. Furthermore, committee members provide an entree into businesses throughout Kalamazoo Valley for EFE students and staff.

> *"Sooner or later, virtually everyone seeks employment."*
> EFE slogan

The EFE system of career-technical education integrates an array of approaches to school-to-work transition: classroom-based programs, worksite-based programs, workforce entry arrangements (mentorships, externships, apprenticeships, etc.), counseling and guidance information services, and articulation agreements with postsecondary institutions. In practice, most EFE students acquire their career-technical education through a combination of classroom, work place, and guidance activities.

The EFE slogan asserts a fundamental belief of EFE's leadership: that all students, not simply those traditionally tracked into vocational classes, need career-technical programs. Many EFE administrators and instructors deliberately try to attract college-bound students as well as traditional vocational students to these programs. They are pleased to see future surgeons in the health occupations program, and students planning to pursue MBAs in business services technology. Some remain most concerned that EFE serve the traditional vocational students, often neglected by high schools in favor of the college-bound.

In either case, this vision for the EFE requires a different kind of "vocational" program. The ideal toward which EFE programs strive is to meld the best of traditional vocational and traditional academic courses: to teach state-of-the-art occupational and employability skills while incorporating fundamental "academic" skills like language, mathematics, science, critical thinking, and problem solving--all within a competency-based framework. EFE staff are quick to acknowledge that not all programs yet meet this high standard.

Collaboration between the vocational and special education systems, through KVISD, has a thirty year history. Approximately sixty to seventy-five special needs students are enrolled in career-technical classes. For example, in the building trades program, students constructing a house work side-by-side, the special needs students focusing on plastering while others practice more advanced skills. In the health occupations program, students also work side-by-side, the only difference being that one student plans to be a nurse practitioner, another, a nurse's assistant.

Funding for the EFE comes from both the basic vocational education grant and an array of discretionary grants secured by KVISD. According to administrators, the discretionary grants have made possible many of the innovations introduced under EFE. For example, EFE had received funding under the Perkins Act for twelve years to encourage the enrollment of nontraditional populations in vocational programs and discourage sex bias and stereotyping. These funds have paid for social marketing, counseling, and technical assistants--classroom aides who help students master course content, provide emotional support, and assist with exams and studying.

Because the basic grant monies are allocated per student, each high school's percentage of the county wide eleventh and twelfth grade enrollment determines its number of slots in each career-technical program. Students who apply to a program are screened according to their grades, interest, attendance, and letters of recommendation from teachers. A few of the most popular programs, like health occupations, have seen the demand from genuinely interested students exceed the spaces, a development that worries EFE staff.

PROFILE: LEARNING IN SCHOOLS

> *If there's a glue for this, it's guidance. I don't care what kind of arrangements you make, if it's not happening in guidance, it won't.*
> District superintendent

The EFE guidance system introduces the students of the Kalamazoo Valley to career assessment, planning, and training opportunities, beginning in the eighth grade. The entire system is devised to communicate the fundamental message of EFE, that career-technical education is for everyone. All students go through the Educational Development Plan (EDP) process, which asks students what they want to be, not whether they are going to college. As a result of the consortium's elimination of the general education track, students must choose either the baccalaureate or tech prep option in the EDP process. The hope is that all students will choose to pursue a two-year or four-year degree after high school.

All eighth graders begin the career assessment process, through testing and through a major career event hosted by the community college. They take the ACT and CPP (Career Planning Program) tests to help them begin assessing their career interests. The results are made accessible to guidance counselors, students, and parents.

The visitation days at Kalamazoo Valley Community College have a dual purpose: to introduce the students to careers, but also to the community college. The college hosts all the county's 2,500 eighth graders, including private school students, distributed over five days, 500-600 each day. Students arrive at 10 a.m. for orientation, then attend three sessions on different career clusters. Many business people as well as educators make presentations, describing career clusters and representative jobs, and providing hands-on activities to help students literally experience their own interests or aptitudes: taking teeth imprints, producing a video, planning a menu, taking blood pressure, or making a t-shirt.

The day also encourages students to take responsibility for themselves. Before the visitation day, students complete interest inventories and choose the careers that most interest them, after counselors have conducted classroom presentations and testing to introduce them to career clusters. Organizers prepare individual schedules for each student, attempting to include at least some of their top career choices. During the visitation day, students are responsible for getting to their sessions and for behaving well, although parents and teachers are stationed throughout the campus to guide them on their way.

The EDP, essentially, is a process of long-range planning for individuals. Students begin setting career goals as eighth graders, based on the testing and discussion with parents and counselors. They receive a notebook that sets out career clusters, sample jobs, and high school courses that should be taken for each, depending on whether the goal is an associate or baccalaureate degree. These discussions produce an individual EDP, which sets forth the high school course work the student needs to complete in order to pursue her chosen career and any needed community college or university training. Students actually begin to implement their EDP in the ninth grade, although they are free to make subsequent changes. That year they also do the Michigan Occupational Information System Search (MOIS), similar to CPP but tailored to Michigan business and industry.

Integrated into the EDP is the Tech Prep 4 + 2 option, which enables students to earn tuition-free college credits for their high school study, an incentive that it is hoped will inspire them to pursue postsecondary degrees. Beginning in the ninth grade, students who earn a B or better in high school courses receive credit for equivalent KVCC courses, accumulating credits toward associate degrees in health, business, human and public service, technical and industrial programs. No tuition and no testing is required for the transfer of credit. These arrangements cover a wide variety of occupations, again to discourage negative stereotyping of vocational course work.

In the remaining three years of high school, students have the option of participating in workforce entry activities like mentorship or cooperative education, as well as taking career-technical course work. The EFE goal is that by grades eleven and twelve, students be well on their way to a clear career direction and course work appropriate to that direction. Graduating seniors can also access the KVCC GAP (Guidance, Assessment, and Placement) system through computer terminals in every high school, at no cost, providing them with job matching, referral, and placement services.

> *I'm constantly impressed at the quality of education these kids are getting.*
> Principal

The schools in the Kalamazoo Valley consortium are the base for most EFE career-technical instruction. All eleven high schools offer career-technical classes, and students from any consortium high school may apply to any career-technical program offered within the consortium. Although the consortium has attracted the most national attention for its off-site occupational programs, it offers an array of career-technical programs primarily based in the schools, including: accounting/computing, agri-science, auto body, auto mechanics, business data processing, business services technology, child care, commercial design, construction trades, cosmetology, electro-mechanical technology, graphic arts, life and personal management, machine tool, manufacturing cluster, marketing, secretarial, and welding.

The agri-science program illustrates the ideal of school-based EFE career-technical education in practice. Over a period of several years, agri-science was revitalized from an academically weak program, out-of-touch with the industry and facing declining enrollments, into a science-based, industry-supported, nationally recognized program whose worst problem is overwhelming student demand for admittance.

> *If a person on an advisory committee claims their industry isn't changing, they're not up on their industry.*
> Advisory committee member

The agri-science program in the late 1980s still operated according to the traditional agriculture production model, a curriculum that was dying out all over the United States because it no longer matched the reality of the industry. Fewer and fewer students enrolled.

Given the rural and agricultural base of Kalamazoo County, however, district administrators did not want the program to die.

The EFE administration sought out new membership for the agri-science advisory committee. That group of people then set out to transform the curriculum. As the committee's chair observed, "All we had to do was look at the industry. This program should mirror the industry--and the industry is the food chain from production to Kroger." This broad vision of the agribusiness industry impelled the committee to build a new curriculum, one that would mirror its diversity. They also decided to seek science credit, both to attract students and to signify the quality of the new curriculum.

The process required several years, involving the committee not only in the complexities of redesigning a curriculum but in political matters as well. They were frustrated initially by a lack of support from both the state university and the state department of agriculture, which adhered to the traditional production model. The chair credits the assistant superintendent for KVISD with a crucial political intervention: persuading the state department to allow a new pilot program in agri-science, by indicating that otherwise the committee would abolish the agri-science program entirely.

Having won the green light to completely rewrite the curriculum, the advisory committee proceeded to do so. They hired a new instructor and by engaging a guidance counselor to teach a course in agribusiness careers, increased the guidance system's understanding of their industry. Administrative support continued to be crucial. EFE staff are praised for placing no constraints on the committee's creativity and for carefully recording their discussions. District administrators backed them up when the science department objected that they were losing good students to the new science-credit carrying agri-science course.

On a tour of the new agri-science facilities at Vicksburg High School, visitors encountered students setting up new aquaculture equipment and working in a new greenhouse. The course offers students science credit as well as exposure to real-world experiences in agribusiness--aquaculture, fisheries, and so on. Extremely popular with students, agri-science enrolled 135 eleventh and twelfth graders in 1992-93. Future Farmers of America named the instructor its National AgriScience Teacher of the Year for 1992-93, in part for his creativity in integrating science into the course.

While agri-science offers an unusual success story, the elements that made it a success bear emphasizing: an advisory committee of committed and qualified people, the leadership of that committee, an EFE staff able to provide both logistical and political support, administrators able to back up both the committee and the instructor, and an outstanding instructor. Again, reform required a system that engaged cooperative and competent people in the pursuit of a shared vision.

When contemplating a new program, the typical model for the EFE is to try a pilot version first. An example of this approach is the Theater Tech program, introduced in 1992 at Comstock High School. The one-year program teaches students about the operations of a theater during performances, including lighting, stage, management, and wardrobe. The program is housed in 774-seat Comstock Community Auditorium, a new professional facility built for family and children's entertainment. The instructor teaches high school theater arts and history, manages the new auditorium, and brings an extensive theatrical production background in community theater. In the 1992-93 school year, the program was limited to Comstock High School students, of whom five enrolled. Administrators planned to open Theater Tech to all consortium schools in 1993-94.

The first semester, students are trained in theater operations and work on both student and professional performances. When a show is underway, their schedule can be very demanding, beginning as early as 5 a.m. to set up equipment and ending late at night to dismantle it. Second semester students take part in a paid or unpaid apprenticeship.

Theater Tech is designed both for college-bound and noncollege-bound students. The instructor's goal is for students to be prepared to move directly from high school into professional jobs, if they chose. However, the program is linked with the stage technician apprenticeship, a federal Department of Labor apprenticeship that requires 4,500 hours of instruction and on-the-job experience over three years. Students can certify their "task achievements," however, whether or not they plan to complete an apprenticeship.

Other career-technical programs are undergoing revision under the oversight of advisory committees. The data processing program, for example, has been phased out and replaced by a more comprehensive business services technology program. In general these changes attempt to make the curriculum more comprehensive, more academically challenging, and more in touch with the state-of-the-art in the industry. For example, students can earn English credit for business services courses, science credit for automobile mechanics, and mathematics credit for graphic design.[3]

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[3] EFE administrators secure the advisory committee's approval, develop a plan and a matrix that show how the career-technical program achieves academic outcomes, and seek the approval of the consortium school boards.

PROFILE: LEARNING IN WORKPLACES

> *I don't think you can beat experiential learning. One student needs it to learn, the others thrive on it.*
> EFE instructor

A basic principle of EFE is to provide students with opportunities to experience real workplaces. To that end, a variety of "workforce entry" programs have been established. These range from three-hour "mentorships" to multi-year apprenticeships. Whatever the structure of the arrangement, EFE staff try to tailor it to the individual student's career goal.

Mentorships are offered to all EFE students, before they make their final course selections for tenth grade. A mentorship consists of a single visit by a student to an employer in his career area, with whom he meets for one to two hours. EFE staff arrange bus transportation for all the students and provide each with a background packet containing a sample introduction and thank you letter, and tips on how to dress. Approximately 1,000 mentoring arrangements were made in the 1992-93 school year, drawing on EFE's directory of 450 mentors.

Students in the eleventh and twelfth grades can access on-the-job training through several different kinds of arrangements. Through cooperative education, seniors can earn money while receiving on-the-job training, and continue these placements after high school graduation while studying at KVCC. Externships, usually unpaid, offer advanced training in the workplace to second year students as a required component of some EFE programs. When the consortium offers no program in a student's career area, specialized training is arranged whenever possible on an individual basis for that student.

The most formal of these arrangements, apprenticeships, connect students to one of the skilled trades approved for apprenticeship by the U.S. Department of Labor. The EFE arrangement enables students to enter what is typically a two- to four-year process at a much younger age than the typical apprentice. Students combine classroom instruction in high school with on-the-job training at a company that has agreed to sponsor them through the Federal Bureau of Apprenticeship. After graduating, students take KVCC courses and work full-time in their apprenticeship until they have met the requirements for a Department of Labor certificate of completion.

The most unusual of the consortium's arrangements, the one that most completely situates learning in the workplace, is the off-site occupational program, of which three were in operation at the time of the site visit. Business partners provide the facilities for these courses: Bronson Hospital (Bronson Health Care Group) houses the Health Occupations Program; the Kalamazoo Probation Enhancement Program (a juvenile detention facility), the Law Enforcement Program; and the Radisson Hotel, the Hospitality Program. All classes are held in these facilities, none in schools. Other businesses contribute by hosting students in job shadowing and externships. The lead instructors are, respectively, a registered nurse, a retired police chief, and a person experienced in the hospitality industry--people who know their industry firsthand. Besides their instructional role, they also are primarily responsible for establishing and maintaining relationships with the businesses that provide externship placements for their students.

Each program integrates academic study, professional skills training, and work experience, and offers articulation credit at KVCC. The instructors emphasize teamwork and character, holding up to students high standards of professional ethics and conduct.

However, as one area director observed, the off-site programs are more like separate schools than individual courses, placing an unfamiliar and intensive set of demands on instructors and EFE staff, and requiring a different system of support. Instructors teach in an environment with none of the familiar supports of the school building: colleagues, equipment, media resources, etc. They feel a continual responsibility for cultivating business trust by preparing and screening their students well, and encouraging feedback from employers. Because their programs cover academic subjects and carry academic credit, the instructors feel compelled to attempt some curriculum integration with classroom instructors, across eleven high schools.

The EFE staff have attempted to devise an appropriate support system for these instructors. For example, the EFE supplies them with telephones and fax machines to ease communication. Area directors report spending correspondingly more time working with off-site programs than with classroom-based programs.

Enthusiasm for the off-site programs appears to be widespread, among EFE administrators and counselors, instructors, principals, and most of all, students. They praise the programs for high academic and professional standards, for the quality of work experience and career exposure, for the responsibility and accountability demanded of them.

> *In a school environment, students are conditioned to behave in a certain way. The teacher is the authority, and it's teaching down. This is more professional. This is real life. They're coworkers, they're part of the team.*
> Health occupations instructor

The first of the off-site programs, the Health Occupations Program, was established in 1989 to prepare students for any of the more than 250 careers in health occupations. Juniors and seniors take the program for one year or two. The first year program enrolled sixty students in 1992-93, the second year enrolled thirty. About 100 to 150 students are turned away each year. Those accepted include students of diverse abilities, including pre-med and special needs.

The model for the program is the health care team. The entire curriculum is built upon the assumption that teamwork and mutual respect are fundamental to the success of any health care operation. The instructors seek to create coworker relationships among those in the program, rather than teacher/student or student/student relationships.

The first year combines intensive study of academic science and core skills with job shadowing. Students study anatomy and physiology, for which they earn one science and one health occupations credit, and practice such skills as CPR, first aid, and sepsis control. The curriculum is taught so as to emphasize the application of academic science and math: study of each physiological system is accompanied by training in an assessment skill and its interpretation. For example, students learn to take blood pressure and pulse while studying the circulatory system.

The first year job shadowing experience requires students to research three careers, and job shadow in ten careers. Instructors arrange the job shadowing experiences, typically two hours in length, with Bronson Hospital, Borgess Medical Center, and a variety of other agencies and private practitioners.

Students are assessed through labs, practicals, written tests (three per week), and projects, including required research in the medical library. They keep written records of their job shadowing experiences. Professional conduct is one-third of their grade. A student with a problem, like too many absences, must work out her own action plan to rectify the situation.

The second year of the program students attend class two days a week and spend three days a week in an unpaid externship, a year-long assignment designed to expose them to the profession of their choice. They work six to nine hours or more per week. Their workplace preceptors teach them more advanced skills, and students and preceptors alike report that externs make substantial contributions to the health care team. In class, students discuss such school-to-work transition issues as workplace communication and personal problem solving.

The health occupations program has acquired a reputation in Kalamazoo Valley and nationwide for its high standards. Its students compete very successfully in state, regional, and national HOSA (Health Occupations Students of America) competitions.

> *In high school you study for the grade. Here it's for your own knowledge, your own interest. You feel like it's in your control. People seem more mature.*
>
> Law enforcement student

Established in 1991, the Law Enforcement Program prepares students for careers in public safety, including law enforcement, criminal justice, fire fighting, emergency dispatch, and private security. Sixty-one students were enrolled in the program in the 1992-93 school year. Juniors or seniors can take the first year course, only seniors, the second year.

The first year class, called Career Options in Public Safety, emphasizes qualities and capacities such as professionalism, conflict resolution, team building, and action planning. Students are introduced to case law and the criminal justice system, studying police, courts, and corrections systems at local, state, and federal levels. Students may be eligible for career shadowing experiences.

The second year class, Career Channeling in Public Safety, is intended only for seniors who want more intensive exposure to the specific public safety career they have chosen. The year is structured as an independent study that requires students to develop a personal action plan and be responsible for their own progress. They arrange their own job shadowing through an application process that teaches negotiation and interviewing skills, as students build a job description and learning objectives for themselves through multiple conversations with an agency.

The instructor is a strong proponent of giving control back to students, teaching them self-management and self-evaluation skills, work ethics, and working together. For example, students are organized into teams that set up professional procedures and roles for themselves. They devise assignments for themselves that require functioning as a team, not just as a group--interdependency rather than dependency. At least once each marking period, every student is supervisor for a week, keeping records, solving problems, and evaluating the team--experiencing the role of manager.

Similarly, the instructor has adopted the "issue management assignment" to deal with unprofessional performances. Students choose either to be subject to the discipline guidelines of their home school, or to adopt the "professional problem-solving mode." The latter approach requires them to evaluate the problem, identify the ideal solution, list objectives, build an action plan, and draw up an accountability contract.

> *We aren't treated as students, but as people.*
> Hospitality student

The Hospitality-Related Careers Program was established in 1991 to prepare students for careers in the lodging, food service, travel, and tourism industries. Juniors and seniors take the program for one year or two. About fifty-five students were enrolled in 1992-93.

The first year combines classroom study and work experience. Students study a set of core skills basic to the hospitality industry, including customer service, human relations, creating a good first impression, and marketing oneself. According to students, they explore "teaching yourself about yourself," learning such skills as self-control and handling conflict. The second semester they begin supervised rotations through the Radisson Hotel and other businesses to focus their areas of interest.

Second year students spend two days a week in classes and three days in unpaid internships intended to expose them to a real work experience, supervised by someone in the career they hope to pursue. Students are responsible for arranging their own internships, one each semester, and for making new arrangements if necessary. Before interning, students develop an individual plan with detailed goals, including dates, times, and methods of achieving the goals. They also take human relations and sales courses at KVCC for up to six credits.

Students take exams on the academic course work. The instructor also makes use of action plans, team leaders, and the issue management process to cope with disciplinary problems. It is interesting to note that students and the instructor confirm that at first the course attracted many students in search of an easy "A," who created discipline problems. The students credit the instructor with changing their attitudes by teaching them a sense of direction and responsibility.

STUDENT OUTCOMES

> *They treat us like adults.*
> Student

Like most school systems, neither the EFE nor its constituent school districts have carried out long-term studies of student outcomes for those who complete career-technical programs through the consortium.[4] EFE does conduct an annual survey of students one year after high school graduation that gathers data on vocational education, continuing education, job satisfaction, and hourly wages. The study also considers placement of students by individual career-technical program, and grade point averages for EFE graduates enrolled at KVCC. The follow-up study of 1990 graduates found that more than ninety-two percent were either working or continuing their education in a field related to their high school career-technical studies. More than ninety-six percent of those employed in a related occupation reported satisfaction in their work. More than fifty percent were continuing their education.

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[4] The EFE Health Occupations Program has received funding from Jobs for the Future of Boston, Massachusetts, to conduct a follow-up study of their graduates, beginning with the class of 1989, the program's first year.

Looking to more subjective measures, the AED/NIWL team found evidence in the observations of instructors, students, and administrators that the EFE experience had a substantial impact on some students. Many observed that students were more motivated and more responsible, as an outcome of the chance to earn college credit while still in high school, the freedom to get out of school, the opportunity to work in a field genuinely of interest to them, the independence and responsibility required of them. Students credit the instructors with changing their attitudes by being fair, caring, honest, and treating them like adults.

Focus groups with students also indicated that through the EFE program they had gained a stronger sense of their own competence. They expressed pride in their own and each other's accomplishments. They talked about specific expertise they had acquired and how this would fit into the organizations for which they hoped to work. They also discussed a range of professional attitudes (ethics, confidentiality, self-control, punctuality, appearance, conflict resolution) in a manner that revealed that they believed in the importance of these attitudes and in assessing the degree to which they had acquired them.

Students also seemed to have acquired through EFE a comprehensive knowledge of the careers to which their EFE program could lead, and a realistic sense of what it would take in terms of time, money, and education to achieve their career goal. They reported shifting career goals, abandoning goals, confirming original goals, learning about careers they had never heard of before. Many could explain why they had made their choices, in a manner that demonstrated both career knowledge and reflection upon their own aptitudes, likes, and dislikes.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Kalamazoo Valley Consortium Education for Employment Program, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Collaboration

> *As we go around the state, no one has the partnerships we have!*
> Community college administrator

No matter what aspect of the EFE we examined, we discovered processes of collaboration--between administrators, between instructors, between guidance counselors, between business representatives and educators--and systems in place to encourage collaboration. Representatives of all sectors concerned with career-technical education in Kalamazoo Valley have vehicles for information, engagement, and contribution to the EFE system. Site visitors observed busy and influential individuals deeply engaged in the sometimes tedious tasks of committee work. Senior community college administrators regularly take part in meetings that are ninety percent devoted to secondary school issues.

Factors that contribute to the success of collaboration in the EFE, identified by those involved, include:

- a history of collaboration around educational issues in the county, which dates back beyond the current consortium's formation in 1986, and beyond the smaller consortium set up in 1982, to at least the late 1960s, when KVISD began coordinating special education and materials distribution among the districts
- a history and culture of cooperation in Kalamazoo Valley among business and community leaders
- the EFE leadership's commitment to collaboration
- compatibility and a spirit of cooperation among those engaged
- the systems sustained by the EFE to support and encourage collaboration at multiple levels across the consortium

Barriers to collaboration, identified by those involved, include:

- the time required to cultivate and sustain collaborative groups and processes.

2. Business Advisors and Partners

> *I always planned on being involved and giving back what others gave to me. I jumped at the opportunity.*
> Businessman/advisory committee member

Business is engaged in the EFE through various routes: advisory committees, off-site partnerships, and as hosts for mentoring, job shadowing, apprenticeships, and externships. Many EFE career-technical programs appear to be successfully drawing on a variety of businesses to keep the quality and relevance of their curriculum to a high standard. Many business representatives appear very satisfied with their role, and some have volunteered years of their time to EFE.

Factors that contribute to the success of business partnerships, identified by business representatives and educators, include:

- logistical support provided by the EFE staff (conducting research, taking minutes, arranging meetings, etc.)
- mutual respect between business and educators: for each other's competence, professional knowledge, and political instincts
- personal commitment to the EFE by business representatives, in time and resources
- the community service orientation of business representatives
- the willingness of EFE staff to grant advisory committees a substantial leadership role in reforming programs
- the results that business partners see--they observe the impact of their work
- the hiring of instructors and workforce entry counselors with relevant business background
- senior EFE administrators with business connections

Barriers to the success of business partnerships include:

- finding business partners who bring the right mix of industry knowledge, commitment to education, and skills to host a student extern or work on a committee
- staff time required to initiate and nurture these relationships

3. Leadership

> *This structure grooms leadership and talent, and promotes its use, so there are all kinds of leaders.*
> Superintendent

A consistent theme in Kalamazoo is the quality of the EFE's leaders: their competence, commitment, vision, strategic thinking, collaborative style, knowledge, and political savvy. The top leadership, specifically the assistant superintendent of KVISD and the area vocational directors, are often singled out for praise. However, closer listening reveals that many people at various levels of the system are regarded as leaders: instructors, counselors, advisory committee members, secretaries, even students.

Factors that contribute to the success of leadership, according to those involved, include:

- the quality of the top leaders, both as managers and as leaders
- the commitment of those leaders to nurturing leadership throughout the EFE system
- the hiring and appointment of individuals with leadership qualities
- a system with structures and processes that empower and support leaders at all levels of the EFE

4. The System

This mix of change and conservation really makes for good programs.
EFE administrator

In weighing the EFE's successes, those involved return again and again to the theme of its system. The heart of the EFE, they emphasize, is not any one activity or collection of activities, but the system that engages people, that sustains a vision, that coordinates logistics, and that effects gradual change.

Factors that contribute to the success of the EFE system, according to those involved, include:

- capable and committed leadership that inspires dedication to the organization and its purposes
- an organizational culture that rewards creativity, initiative, teamwork, and quality
- a strategic planning process that sets forth goals, actions, and staff responsibilities
- effective structures and processes for engaging appropriate players in review, management, and reform of programs
- effective systems for operating and managing logistical requirements, including transportation, communications, school calendars, grading systems, and so forth

Barriers to the success of the EFE system include:

- conflicts among the systems and procedures of nine school districts
- scheduling transportation for students traveling from eleven different high schools to programs and businesses across the county

5. Networking

> *They [EFE staff] are very knowledgeable about innovations, including the academic applications we're into now.*
> Principal

The Kalamazoo EFE is well-connected to the world of education beyond the county, in a variety of ways. Some staff are active leaders in professional organizations; some circulate in state political circles. EFE has a history of winning private and public grants that pay for new activities but also sustain important connections: with Jobs for the Future, for example, and its network of programs. Funding from the German Marshall Fund has enabled staff to study vocational programs overseas. Beyond all this, the system appears to value new ideas and approaches, from total quality management to technology education.

Factors that contribute to networking, according to those involved, include:

- a history of networking, including staff already well-connected within the state and nation
- the funds, training, and resource people that networking has brought into the consortium
- leaders who value and support the professional recognition of staff
- leadership and staff who value new ideas, knowledge, and approaches
- a "hybrid" system that allows for incorporation of new ideas, approaches, and knowledge

Barriers to networking include:

- the demands already placed on staff time

6. Student Empowerment

We want responsibility.
Student

It is no accident that within a system that emphasizes teamwork and initiative among the staff and advisory groups, the stellar career-technical programs set a similar vision and standards for students. These programs take the concept of "employability skills" to a higher level, beyond punctuality and dress codes, to professional ethics, teamwork, responsibility for oneself, each other, the client, and the product. They treat students "like adults," granting them more freedom to make choices for themselves, but within the contexts of teamwork, self-discipline, and personal responsibility for consequences.

Factors that contribute to the success of student empowerment, according to those involved, include:

- a fundamental belief among instructors and administrators in the centrality of these values to professional training
- a fundamental belief among instructors and administrators that students rise to what is expected of them
- instructors who design the processes of their courses (e.g. self-discipline, externships) so as to inculcate these values in students
- a core of students who have accepted and in some cases embraced whole-heartedly this new model of schooling, along with a new confidence in their own potential

Barriers to the success of student empowerment include:

- student and instructor comfort with the more familiar high school model of teaching

7. Academic credit for career-technical courses

The vocational courses are giving core academics a run for their money.
Superintendent

The pursuit of academic credit for career-technical courses is a basic strategy of the EFE, one that serves a number of purposes but has the overarching goal of blurring the traditional division of course work into academic and vocational tracks, the traditional distinction between the college-bound and noncollege-bound student. Career-technical programs that offer academic credit, especially those articulated with postsecondary institutions, encourage the college-bound high school student to think about the career implications of her choices, and the noncollege-bound to think about postsecondary training that might assist her career.

Factors that contribute to the success of the effort to grant academic credit for career-technical courses, according to those involved, include:

- administrators across the county have supported the effort
- a formal process for assessing and granting credit is in place
- several career-technical programs--agri-science and health occupations--are producing students who perform as well or better than regular science course students (measured by state exams, for example)
- the success of these highly visible career-technical programs--in meeting high academic standards and attracting students--places a great deal of pressure on regular academic instructors to rethink their own courses along the lines of outcomes-based education and applied academics

- their success also pressures advisory committees and vocational instructors to strengthen the academic base of the career-technical programs they oversee in order to obtain credit, attract more students, and even avoid elimination
- courses carrying academic credit appear to attract more college-bound students, breaking down assumptions about what "type" of students take vocational courses
- students without college aspirations do begin to consider postsecondary training when enrolled in career-technical programs that inform and encourage them about these options

Barriers to the success of the academic credit granting process include:

- resistance from some instructors
- the lengthy process of redesigning a course and obtaining approvals

8. Locating Career-Technical Programs Off-Site

> *The most exciting thing is the off-campus opportunities, because they are actually breaking down the four walls.*
> Superintendent

Situating career-technical programs within the business for which students are being trained has the obvious advantage of simply exposing them to its day-to-day atmosphere and routines. However, the experience in Kalamazoo County indicates that the popularity of these programs with students and others has to do with many other factors as well.

Factors that contribute to the success of off-site career-technical programs, according to those involved, include:

- the degree to which students are engaged and stimulated by learning in a real-world, hands-on environment
- business partners willing and able to make a long-term commitment that will not bring an immediate or visible pay-off to the corporate bottom line
- instructors whose understanding of the industry is based in personal work experience
- instructors and administrators willing to make the intense commitment demanded by these programs

Barriers to the success of off-site programs include:

- issues concerning transportation of students
- intensity of logistical and administrative support needed by programs not located in school buildings
- student demand for these opportunities far outracing the system's ability to supply them

The leadership of the EFE often caution against the idea that another school system could simply copy the Health Occupations Program, for example, or the EDP process, and have successfully replicated the consortium's work. It is the system that enables the organization to grow, balancing conservation and reform, engaging all the parties in its processes. Those who hope to engage in a meaningful school-to-work transition effort, should also consider the importance of systemic factors.

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PATTERSON CAREER CENTER

CASE STUDY REPORT

Prepared by:

Bryna Shore Fraser and Scott Menzel
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Dayton, Ohio, the week of October 18 - 22, 1993, to study the Patterson Career Center. We were particularly interested in how one of the oldest cooperative education programs in the country was adapting to an administrative structure that was moving towards participatory management within a broader district-wide restructuring process.

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INTRODUCTION

Dayton Public Schools are undergoing an important restructuring phase in an effort to address changing demographics and modify methods of education to meet the needs of the current student population. An important component of this restructuring effort is the Patterson Career Center, which has always been committed to assisting its students in their education and in their transition to the workplace. The genesis of Patterson explains much of its mission.

In 1913, under the leadership of John H. Patterson, Charles F. Keating, and E.A. Deeds, a number of Dayton businessmen proposed a plan to the Dayton Board of Education for the development of a cooperative/training extension school. The extension school was based on the factory work schedule, offering instruction in drafting, blueprint reading, shop science, and shop mathematics. The Cooperative High School, as it was called, developed the plan of alternating a full week on the job with a full week in school. It was the second institution in the United States to offer practical vocational instruction and award its graduates a high school diploma.

Under the cooperative plan, preparation and practice were to be acquired simultaneously. This was accomplished by dividing the school population into two equal groups or sections; while one section attended school, the other worked. The time spent in industry was regarded as part of the apprenticeship/training period where advanced skills were to be learned. With the passage of the federal Smith Hughes Act in 1917, the Dayton plan became a model for the state of Ohio as well as for many other states.

From 1954 to 1968, students in grades 10-12 were selected to attend Patterson. In 1968, the enrollment was expanded to include 9th grade students. Most of the students chosen had A/B averages, and many went on to postsecondary education. In fact, Patterson sent more of its students on to college than any of Dayton's other high schools. In 1973, attendance ceased to be a selective process and became one of individual choice, resulting in a dramatic change in the make-up of Patterson's student body. Like so many other schools that specialized in career and vocational programs, Patterson increasingly became viewed as a "dumping ground" for young people who couldn't make it in any of the other high schools. In 1987, a second building, the Career Academy (which had started as a math-science magnet for accelerated students) was added as a second campus, broadening the opportunities for students but adding to the difficulty of developing a unified identity, mission, and philosophy for school administrators, faculty, staff, students, and parents. The public image of the school declined, and morale among students, faculty, and staff at PCC was at a low point.

CONTEXT

All of the turmoil at the school level was accompanied by significant changes within the larger community and school system. The Dayton Public Schools system can be considered very typical of a large urban school system, with all the problems inherent in that environment. In 1963, enrollment in Dayton Public Schools (DPS) reached a peak of 63,000. In 1993-94, that figure was down to 27,000. Seventy-five percent of the students are African-American, with many of the White students having migrated to the suburbs.

Eighty-two percent of the students currently enrolled in DPS are disadvantaged, facing the myriad of problems that confront urban youth today.

At the same time that public school enrollment was declining, the number of corporations located in Dayton decreased dramatically, creating an unemployment rate of seven percent and leaving fewer, and smaller, employers to participate in cooperative education work experience placements. During the last 15 years, the employment base shifted from manufacturing to service and high tech industries. Even the larger, traditional employers with historical ties to Patterson downsized their operations and were unable to provide as many placements for the school's students. No longer was it possible to make just one phone call to NCR or General Motors to place 50 students in co-op positions.

At the school building level, Patterson had the same principal for 25 years, followed in quick succession by two others, with the appointment of a third new principal in 1992-93. With the arrival of this new principal came a shift in philosophy. He came to PCC with extensive experience in a leadership role at one of Patterson's feeder middle schools that offered a magnet school in the arts for gifted students. During his tenure there, he had championed participative leadership and management techniques and, according to an outside consultant to DPS, was responsible for a dramatic turnaround in the strategic priority and direction of that school.

Upon his arrival at Patterson, he faced a substantial challenge. PCC has approximately 1,450 students and 150 faculty and staff, 110 of whom are certified in their areas of specialized expertise. PCC has a nine-month academic program with 1,000 students participating, and an eleven-month cooperative education program involving about 400 juniors and seniors. Morale and commitment to a common plan of action were low among staff and faculty; even the students appeared to exhibit symptoms of "organizational decline." High numbers of freshmen and sophomores were being held back, contributing to an imbalance in the distribution of students among the four years of the program. In addition, since federal and state funds are based on students achieving junior and senior status, the number of students held back each year was contributing to PCC's financial decline.

The AED/NIWL site visit team arrived at the beginning of the second year of the new principal's tenure. While we had originally expected to document just the cooperative education program at PCC, it quickly became clear that this was just one component in a long-term effort to restructure PCC within the framework of the Dayton Public Schools' five year (1990-1995) strategic plan. The focus of this case study, therefore, is on cooperative education, or cooperative work experience, as one element in a targeted, organizational effort to reform the **process** of helping young people make the transition from school to work within the larger goal of systemic reform.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

You need to have a willingness to step off the curb into traffic, to take risks.

PCC Principal

With the support of the DPS Superintendent of Schools, one of the first actions taken by the new principal upon his arrival was to initiate **Leadership 2000**, an effort to develop a commonly-held strategic direction among faculty, administration, community leaders, and parents at PCC. As the principal himself stated, there had to be a willingness to "step off the curb into traffic," to address wholesale change within PCC rather than piecemeal change which he believed would be even tougher on the school culture. **Leadership 2000** is a process of developing leadership throughout the organization. The goals of this effort are:

1. to strengthen the organizational leadership abilities of the administration and core curriculum leadership at Patterson High School/Dayton Career Academy, the two campuses which together make up the Patterson Career Center.
2. to develop a strategic plan for the next three to five years of organizational development at PCC.
3. to develop a commonly held commitment to the strategic direction and priorities of the future of Patterson High School among community leaders, teachers, parents, and students.
4. to institute a participative leadership structure within Patterson High School involving faculty, students, teachers, and community leaders in charting a course for the future direction of the school.

Both standing and ad hoc structures are used throughout the school to address ongoing organizational needs and to promote a participatory management model in a decentralized structure. To help accomplish all this, an outside consultant was hired to work closely throughout the process with the principal and other stakeholders.

PCC Mission

As a result of a series of meetings and retreats, PCC now has a revised school philosophy and mission statement. Its vision states that: "We are a dynamic, unique and collaborative school community committed to unleashing potential in all our students and making the world our classroom with a focus on work experiences and career exploration." PCC's guiding philosophy is: "We, the faculty of Patterson Career Center, are committed to competency based career development of young adults through: interdisciplinary academic programs; comprehensive vocational training; cooperative work experience; and college access." The details of the vision and philosophy are presented in Appendix A.

School Structure

In regard to structure, PCC is moving towards a decentralized structure that emphasizes shared decision making which promotes consistency, accountability, and responsibility by students and staff. In terms of its curriculum/instruction, PCC has committed itself to a performance-based, interdisciplinary academic/vocational model that encompasses: career exploration; vocational preparation; assessment; core values and life skills; cooperative education through work study experience; and articulation with higher education and the business community. Building on its historic ties to the local business community, PCC maintains an overall business advisory group as well as one for each vocational area. PCC supports a highly participative learning environment utilizing: peer mentoring; special interest clubs; peer mediation; learning teams; and the entrepreneurial spirit. Finally, PCC has committed itself to ongoing staff development using team planning to incorporate specific curricula and effective instructional practice.

Based on our conversations with PCC faculty, staff, parents, and students, the principal has inspired them with great enthusiasm, optimism, and confidence. They acknowledge that reforms are needed and are excited about the rapid pace with which these changes are happening. As can be expected with such rapid changes, however, some staff have expressed reluctance or frustration. Those reluctant to change express concern that either the changes will not be successful or the administrators will be reassigned and the changes discontinued. Those who are frustrated express a desire for more in-depth implementation support to help them focus on specific action steps through which they can become an effective part of the new vision. The principal has made it clear that all staff are expected to exert at least a minimal effort to implement change but it was noted with appreciation that administrators have shown patience with those who have not yet fully accepted their role in the new vision of PCC.

Administrators have also taken steps to respond to the concerns of staff and students regarding such issues as safety. The recent installation of metal detectors on both campuses for use in the morning when students arrive has contributed to an increased sense of physical safety at PCC. The adoption of uniforms in the 1993-94 school year has increased school pride and personal self-esteem, while improving the public image of PCC students and increasing safety in the school environment by more efficiently identifying non-students on both PCC campuses. Each of these steps was taken in consultation with staff and parents.

Parent Involvement

In a focus group session with parents, the AED/NIWL site visit team found that the parents were supportive of the changes at Patterson and confident that the education their children were receiving would enable them to make choices to either continue education at some level or enter directly into the workforce. The possibility of the students receiving college credit at no charge was appealing to several of the parents, and the perception that attending Patterson opened doors for their children seemed common. Even though it was unclear whether the parents fully understood the nature of the reform initiative, they seemed assured that their participation was desired and appreciated by the staff at PCC.

Several parents suggested that in order to get more parents involved, PCC staff should consider holding meetings at other locations and times in the community, given the very real time and transportation constraints experienced by many parents, as well as their lack of ease in a formal school setting. At least one parent noted that she was attending classes at PCC herself, taking advantage of the offer that any parent who wishes to attend is welcome to enroll at Patterson while their child is attending PCC. She felt it was an important way to set an example and underscore the importance of education and class attendance to her own daughter.

There are currently nearly 75 adults participating in vocational classes at PCC in order to receive training and certification, many of whom have children at PCC. Most are taking classes in Radio & TV, Business, Chef Training, and Drafting; seven adults (two of whom are parents) are enrolled in the dental program. (These adults count as students for state financing purposes.) The program is beneficial to parents who may view the community college as too intimidating or expensive; PCC charges each of them only $50 for lab fees. The adults receive a certificate of completion and are not required to have a diploma or GED to participate. One teacher commented that having parents attending classes provided excellent role models and had a beneficial effect on the younger students.

In regard to overall parent involvement in the schools, the Superintendent distinguished between involvement and participation and indicated that, on the whole, there was strong parental involvement but poor participation. He felt that the problem is that parents are not trained or equipped in how to help their children, or even in how to raise them and don't know how to participate. PCC is working to reach out to include parents in as many ways as possible. For example, a program profiling the Quick Start program as an excellent opportunity for tenth graders and their parents was recently offered. Of the 40-45 students attending, all except two had a parent with them for the presentation. Publicized with a positive spin (rather than the usual contact regarding student problems), it received the enthusiastic support of the parents, who viewed their involvement as good for and helpful to their children's future.

PROFILE: LEARNING IN SCHOOLS

> *Cooperative education is the way of the future. All schools will have to go this way.*
>
> Superintendent of Schools

One outgrowth of the new vision and philosophy being implemented at PCC has apparently been an improved cohesiveness among staff, especially between academic and vocational teachers. This has been reinforced by the reorganization of the entire building structure into vocational theme clusters in the 1992-1993 school year, as part of the move towards decentralization. The goal is to establish a school-within-a school configuration. Appendix B shows the model that is being implemented at PCC.

Cluster Teams

Each cluster team consists of core academic and vocational instructors who work together as a team and meet on a regular basis (three times a week for at least a half hour) to share lesson plans, to reinforce the learning taking place, and to provide for a more effective handling of student discipline. Staff refer to an atmosphere of caring, trust, and respect that is developing as teachers feel more empowered to participate in implementing solutions to the school's problems. The principal encourages staff to take on leadership roles, through the clusters and a network of teams, in every part of the school improvement process. He has provided staff with extensive inservice training opportunities to learn the skills and processes needed for effective participatory management. Staff feel that their ideas are not only encouraged but accepted and used to shape initiatives for reform.

Respect for the principal's leadership is high among the staff. All of the administrators are seen as creating and supporting the structure for instructional leadership to come from the clusters and to provide management functions that allow the school to run efficiently. Teachers feel supported in their efforts and report that the cluster structure is beginning to result in instructional support among the cluster members. According to one vocational teacher, the clustering of divisions has resulted in a sense of ownership of the program and provides needed consistency.

As an example of how the clusters function, at the Cluster 6 (Auto Body & Mechanics & Machine Trades) meeting attended by one of the site visitors, eight teachers from the cluster met after school. The forty-five minute meeting included both vocational and academic teachers. The vocational teachers provided everyone with written plans for the upcoming week's lessons. The plans were presented in a new form for the first time at this meeting, and the academic teachers indicated that they felt the form was useful and should be adopted.

After reviewing the plans, the science teacher asked one of the vocational teachers for some books on metallurgy so that she could reinforce what the students would be doing in his class. One of the vocational teachers noted that he would be dealing with the use of trigonometry with the sophomore students, and the math teacher said that he could work some of it into his class that week. The science teacher indicated that she tries to spend at least one day a week doing a lesson that focuses specifically on the vocational work her students are engaged in. One of the auto repair teachers offered to give the math teacher some charts that he uses for measurements. Another auto repair teacher offered to share a computer program with scale information and tests on the metric system with the academic teachers.

In separate discussions with an English teacher for cluster 10 (drafting), she disclosed that her training was in literature and that the integration of the vocational and academic subject matter was initially a very difficult chore. However, as the transition process developed, she took an interest in incorporating materials relevant to drafting into her courses in English. In addition to requiring assignments from trade journals and magazines like *Popular Mechanics*, she required outlines of books to be written in the same penmanship required for drafting. She has had no specific classes related to drafting, however, and the efforts thus far have been on her own initiative. While she can talk with the staff at PCC to gain information, no formal levels of instruction have been planned, although there is recognition of the need for this if the effort to integrate the academic and vocational components is to be successful.

Much of the time at the Cluster 6 meeting was spent discussing disciplinary problems. The visitor was struck by the concern shown by the teachers for a number of the students who were facing suspension. In several instances, the teachers felt that, despite the infraction, the student was worth "saving" and that they were willing to work with the students individually to keep them in school and to help get them back on track.

To help address the difficulties in dealing with an urban, largely disadvantaged student population, PCC has set up an intervention team composed of the head counselor, teachers, and representatives from student services. Teachers make referrals of students they know are having difficulties, ranging from attendance problems to drug abuse and teen pregnancy. Patterson has the highest rate of teen pregnancy in the district and, to date, the situation has not improved. The intervention team, meeting every other week, works to devise ways to assist the students in overcoming the barriers. Often times they will draw up a contract, signed by the student, stipulating the necessary adjustments in behavior or attendance in order to continue in either their program or Patterson altogether. Some teachers make concerted efforts to help students who are getting into trouble and might be lost to the school (and probably society) if proactive measures aren't taken. Many of the students have no strong adult role models, leading teachers to even make home visits, not because they are required to, but because they are concerned.

PCC Faculty

This concern of the teachers for their students appears to be an important component in helping the students succeed. The teachers seemed particularly interested in assisting the students not just in school but also in their home lives where they have to deal with the array of problems facing urban youth (e.g. absent parents, lack of positive role models, drugs, peer pressure, and teen pregnancy). By equipping the students with marketable and practical skills and by providing them with work experience while they are still in high school, the majority of teachers whom we spoke with feel that they have an opportunity to help students change the cycle of poverty and misfortune. It is their contention that these students are more likely to stay in school in the cooperative environment than they would be if they were required to attend a traditional high school.

Yet some teachers expressed high levels of frustration that outside influences prevent students from achieving at expected levels. Both students and teachers appear frustrated about what was called apathy from students, parents, and, in some cases, teachers. Several staff (mainly academic teachers who had been at Patterson for many years) mentioned that they felt the problem was the "caliber" of the students which has become "lower" since the entrance requirements were changed in 1973. These staff seemed neither equipped nor inclined to find new ways to challenge students and instead have apparently lowered their own expectations and standards for high quality instruction. With the increase in new, younger staff at PCC, it is felt that this problem will diminish as the number of older, more frustrated teachers declines. Currently, nearly half of the teachers are new. Twenty members of the faculty are themselves Patterson graduates.

In general, there appears to be a high level of acceptance for innovations being implemented throughout the school structure. Teachers and administrators are working rapidly to bring about improvements. There is some concern, however, that the fast pace and high energy levels required to create reform will not be able to be sustained. Staff mentioned both appreciation and concern for the long hours and energy levels of the principal and acknowledged that the current enthusiasm for reform reflects his energetic leadership, without which they fear change might not continue, resulting in lower quality offerings for the students.

PCC Program

Currently the versatility of the PCC program affords its students the choice of entering a career upon graduation and, at the same time, maintains a curriculum that is strong enough to allow students to continue their training by enrolling in postsecondary education institutions. The mix of academic and vocational classes, especially the new efforts at integrating both through applied academics, offers students a variety of options to pursue their educational goals. Offerings include:

- nine month, half-day magnet programs;
- three year vocational courses for full-time students;
- advanced study opportunities at Sinclair Community College;
- full complement of academic and elective classes; and
- cooperative work experiences available in most vocational areas with an eleven-month school year.

Eighth-graders who choose Patterson as their four-year high school can choose from more than 20 vocational programs that prepare them to enter college, other advanced training, or the workforce. Students may begin their on-the-job training as juniors if they choose one of the eleven-month programs with a co-op component.

Eighth-graders who choose to attend one of the other Dayton high schools have the chance to attend Patterson half-day as juniors and seniors and still maintain enrollment in their home schools. Students choosing this option may enroll in one of the nine-month programs, which include:

Auto Mechanics
Business
Builders' Academy
Child Care
Chef Training/Restaurant Management
Community and Home Service
Cosmetology
Radio and Television

Eighth-graders who are full-time Patterson students may enroll in any of the programs listed above as well as the following eleven-month co-op programs:

Accounting
Administrative Assistant
Advertising Design
Auto Body Repair
Auto Mechanics
Chef Training/Restaurant Mgmt.
Drafting
Graphic Communications
Health Occupations
Medical/Dental Arts
Industrial Electronics
Machine Trades
Marketing Education
Custodial Maintenance
Office Specialist

The Vocational Magnet Program offers all of the district's eleventh-graders an opportunity to enroll in two-year skill training programs at PCC, while maintaining enrollment in their home high school.

Students must demonstrate the following to be placed in cooperative work experiences:

- basic competencies achieved in class;

- good attendance (no more than 9 absences/tardies per semester);
- good citizenship;
- passed all proficiency tests; and
- average or better feedback on co-op employment readiness evaluation form (completed four times over two years).

Students are assigned to a repeater intervention program until they make satisfactory progress. Anticipated outcomes include:

- increased expectations for student growth;
- increased intervention in earlier grades to target deficiencies;
- increased discussion about employability standards and readiness issues;
- student needs prioritized as opposed to "place and pray" approach, where students are placed in a work situation and everyone prays that it works out;
- possible increase in repeater, non-working population; and
- enhanced credibility of co-op work program and renewed employer interest.

The primary purpose of the cooperative work program is to expand students beyond the traditional classroom boundaries and to provide students with opportunities to put theory into practice and bridge the gap from school to full-time employment. The cooperative work program is three years in length. Co-op students select their vocational program as a sophomore to prepare for work experiences during their junior and senior years. The program is eleven months in length. Currently, the co-op program is set up on a two-week section basis; that is, one job is filled by two students who alternate their school and work experience every two weeks for a full calendar year.

An example of one of the school-based coop programs is the Radio/TV Program. Like each of the other programs, there is a job coordinator assigned to develop employment situations and implement the student-parent-coordinator form (completed by each party and added to the student's file). An individualized training plan is developed, with desired degrees of growth articulated.

The department has equipment for producing television programs, which enables students to participate in the local cable station, recently televising a debate in the race for city council. The students also run a homework hotline show in mathematics for half an hour each day during which students from all over the city call in for assistance on math problems. Students operate the cameras and the control boards during this live broadcast. The equipment is comparable to (and, in some cases, better than) the equipment in university communication programs.

Many of the co-op students work at the Career Academy where the Radio/TV Program is housed; others work with the local cable company. PCC is currently working to establish articulation agreements with several universities in Ohio, since the Radio/TV co-op students receive the equivalent of college courses in the work required in the program.

The students also run a radio program from 8:00 a.m. to 4:30 p.m., which they hope will operate full-time as early as spring, as they are attempting to gain their own frequency to broadcast around the clock. One of the site visitors interviewed a former student who now has his own business videotaping major events (such as an air show in California). He never went to college but took advantage of the opportunities at Patterson to gain the skills needed to be successful in the field. He was raised in a poor section of Dayton with a very unstable family life; many of his friends were into drugs and similar activities. When he was hired to come along with the police on a drug bust as part of a reporting team (he was hired to videotape the raid), it turned out that he knew some of the people being arrested. He even had an opportunity to interview some of these young men. It was his opinion that the opportunity to do what he really enjoyed doing played an important role in keeping him out of the trouble in which his friends found themselves. He also thought that he wasn't the only person to benefit from this type of learning opportunity. He learned so much at PCC that he didn't see the need to go to college, since all the skills he needed to be successful in his field were available to him at the high school level.

While most of the information regarding the Radio/TV program was positive, several instructors expressed concern that the state OCAPS (competencies required for graduation) are not relevant to the specifics of TV/Radio production, perhaps because other programs across the state don't have the access and equipment that PCC has. The view was expressed that the OCAPs should be designed with first job needs in mind, which is evidently not currently the situation.

Articulation with Sinclair Community College

Because many of the students in Radio/TV and other PCC programs learn skills that are also taught at the college level, Sinclair Community College (SCC) in Dayton gives them credit, through an articulation agreement with Dayton Public Schools (DPS), for certain course work they have taken in their vocational program. The articulation agreement is the process which coordinates the learning experience that PCC and SCC offer to students they serve, thereby reducing the cost, time, and duplication of learning. The agreement provides for joint faculty interchange and cooperation as well as program enhancement and assessment that enable individual students to receive recognition of educational efforts through the awarding of college credits for skill attainment.

Among the cooperative programs between SCC, which is located just eight blocks from the Patterson campus, and PCC are:

- Quick Start Program: Targeted primarily to PCC seniors who can benefit from the advanced course content that is available at Sinclair, this project enrolls electronic, drafting, business, and allied health students during the school year. Seniors in Industrial Electronics, Medical Arts, Marketing, and the Office Specialist Program attend Sinclair to complete some part of their regular course work. Courses are team-taught by SCC and DPS personnel. Electronics students work in a sophisticated Sinclair Robotics Lab, while Medical Arts students earn credit for an introductory nursing course. Marketing seniors learn how to start their own business through a Sinclair class in entrepreneurship, while Office Specialist students study desktop publishing. From 1987-88 through 1992-93, Quick Start served 494 PCC students who earned a total of 1,860 hours of college credit. Funding for the program comes from Dayton Public Schools and the Sinclair Foundation, with enrollment costs averaging less than $150 per student for all associated expenses. Interestingly, the grades earned by the PCC students are generally comparable or slightly higher than those of other SCC students enrolled in the same classes.
- Apprenticeship in Electronics: a joint effort between PCC and Sinclair faculty, students can receive as many as 25 college credits upon completion of the program.

- Tech Prep: In order to encourage more students to aim for postsecondary training, a four-plus-two tech prep curriculum was designed to be offered at PCC and one other high school, using the magnet concept.
- Career Dimensions/College Prep Project: High school juniors are invited to the Sinclair campus during the fall quarter to explore career opportunities along with appropriate pre-college preparation. During the spring quarter, Sinclair students meet with this same group to answer questions about specific areas of study and the transition to college. During the following winter, the group is invited to attend "College for a Day," featuring sessions with faculty members as well as workshops to provide information on admissions and financial aid procedures.

A cooperative agreement between the college and Dayton Public Schools gives successful vocational program completers advanced standing at Sinclair at no additional cost to the students. In 1990-91, 60 students left high school with a total of 285 college credits. In addition, Sinclair has offered free education to every graduate of PCC; SCC's president is committed to serving the needs of the community and its residents.

PROFILE: LEARNING IN WORKPLACES

> *His positive attitude, reliability and willingness to accept new challenges have made him a valuable member of our health care team. He truly is a team member, not just an employee.*
> Co-op Employer/Dentist

As stated above, the purpose of the cooperative work experience program is to expand beyond the traditional classroom boundaries and provide students with opportunities to put theory into practice and bridge the gap from school to full-time employment. More than 70 employers in the Dayton area provide co-op placements for Patterson students, who earn more than one million dollars a year from their participation in these placements. Students are not sent out to the worksite until their junior year. They spend tenth grade in career exploration and are not placed in a job until have passed a series of proficiency tests for each level of study and are deemed mature enough to be placed in a co-op situation.

This is determined through the co-op employment readiness evaluation, which is conducted by the tenth grade vocational instructors and the assigned outside job coordinator. A copy of the form used is included as Appendix C. Those who lack the requisite maturity or have other problems are placed in a volunteer position so that they will have a chance to prove themselves and eventually move into a paid co-op position.

Once it has been agreed that the student is ready for job placement, a cooperative training plan is developed by the jobs coordinator, with the involvement and agreement of the proposed employer, the student, and the student's parent. A copy of the agreement is presented as Appendix D. The training plan includes a schedule of work experience and a course of study paralleling it. Specifics regarding wages and number of hours per week are spelled out, and the responsibilities of each of the signing partners are detailed. The goal is to place the student with the same employer for both the junior and senior years, allowing the student to learn how to apply and mold the skills required by the employer in the 11th grade, with the payback for the employer occurring in the student's senior year, as an experienced, confident worker.

Each cluster has several outside job coordinators who are charged with overseeing the work experience, communicating with both the student and the employer on a regular basis, as well as visiting the job site ideally at least once every two weeks. Problematic placements are visited more frequently. Employers are asked to fill out evaluation forms for each co-op student four times a year (see Appendix E). Points are assigned in a number of areas, sometimes in conjunction with the outside job coordinator.

In-building coordinators work with the students while they are in school. On the Mondays after students return from their section at work, in-building coordinators hold vocational labs where they facilitate discussions that allow the students to reflect on the work experience and other work-related and general concerns. Students are required to fill out a workbook, which documents the time they have worked and notes any problems they are having. The workbooks help the coordinator develop lesson plans that are relevant to the students' actual work experiences. The workbooks and the labs also help to keep the classrooms up-to-date. For example, if a student indicates that he/she is using a computer program at work that is different from what is being taught in class, the instructor can alter the course to equip the students with the skills and tools they need to use on the job.

The outside job coordinators are also responsible for developing new placements and maintaining ties with the employers in their fields to ensure that they are up-to-date on the needs of and opportunities with community businesses. With the shift in Dayton from major manufacturers to small shops and changes in technology, (e.g. from the use of drafting boards to CAD), it has become more difficult to find placements, and those jobs that are available require more in the way of skills. PCC students are in competition with students from three local colleges, and it is sometimes a struggle to find students with the necessary skill level to place in available co-ops.

In a visit to one major employer, NCR, the site visitor was told that students interview for the co-op position, fill out a regular application, and are required to undergo drug testing. The students are not guaranteed a position and occasionally have more than one interview. NCR tries to provide meaningful work for all its co-op students, although this is not always possible. Several accounting students, for example, were working in the mailroom, as were some recent graduates from the accounting cluster at PCC. There was no guarantee that any of the graduates would have the opportunity to move into positions that would make use of their accounting preparation at PCC.

At one of the local tool and die shops, several PCC graduates were employed full-time and were serving as mentors to two current PCC students. They felt that their co-op experience had led directly to their being offered full-time employment, with good pay and the potential to move up. Supervisors indicated that their shop had a long and satisfactory relationship with PCC and that they would continue to hire co-op students as long as they had enough work coming in. They viewed the co-op experience as an excellent opportunity to screen potential full-time employees.

The AED/NIWL team also visited U.S. Design, a drafting company which employs PCC co-op students, several of whom have graduated and now have full-time jobs there. The skills they learn in the classroom, both on the drawing boards and on the CAD system, are used in their work. The co-op students actually get real drafting experience at this shop (rather than make-shift work observed at NCR, with accounting students in the mail room).

Depending on their level of skill and ability, students can make significant contributions to the output of the shop. According to the Vice President of U.S. design, one current co-op student has done remarkably well. She displays such a talent for drafting that the supervisors at U.S. Design are committed to assisting her in developing those talents and are hopeful that work will be plentiful enough to offer her a position upon her graduation from PCC, if she decides to enter the workplace full-time at that point.

The drafting courses at PCC have the same computer technology that drafting departments in the world of work now employ, a distinct advantage for Patterson students. While some companies only use the CAD systems now, others still use both the traditional drafting board as well as the CAD. The instructors at PCC believe it is important to train students on both.

PCC has also developed a co-op placement with EG&G Mound, a nuclear facility formerly under the U.S. Department of Defense and now under the U.S. Department of Energy. A PCC co-op student was responsible for creating floor plans for the location of all fire extinguishers in the more than 200 buildings at the facility.

Visits to several area medical offices and health care facilities, including a nursing home that employed several special education students, reinforced the fact that co-op students are engaged in meaningful work experiences. Each of the employing organizations indicated that the students were providing needed services and were gaining skills and confidence in the process. One problem that was cited, however, was that of transportation. Because many, if not most, of the job sites are outside the downtown Dayton area, students are required to provide their own transportation or use public transit which is often unreliable or involves spending a great deal of time on travel. There does not appear to be an easy solution to this problem, although use of public transit is subsidized by the school.

The Builders' Academy is a new program (in its second year of operation when we visited for 16-21 year old students interested in the building trades who have an aptitude for learning carpentry and other remodeling skills. Twelve properties in Dayton - most of them in need of complete renovation - serve as the work sites. Students receive closely supervised work training; teamwork and productivity skills are emphasized. They also receive classroom training at the construction site in math and communication skills that apply to their trade area. After six months, if the student has made satisfactory progress, then he/she is admitted into a formal building trades apprenticeship program.

The Academy's external board consists of three bank presidents, the superintendent, a judge, and a school board member. It also includes a cooperative relationship with the trade unions. Because the Builders' Academy is a relatively new program, community and especially business organizations have not bought into it yet as much as the Superintendent would like: "They haven't realized yet that the Builders' Academy is a part of the community."

STUDENT OUTCOMES

> *I would not trade my education here for anything because it has provided lasting rewards.*
> Office Specialist Student

In regard to formal student outcome tracking, Ohio state law requires that students be tracked six months after graduating high school. According to PCC's 1990 graduate follow-up, completed in February 1991, the findings were as follows: of 231 completers, 88.3 percent had a positive placement in continuing education (47.0%, 14.4% of whom were also employed), related employment (39.7%), the military (9.5%), and employment in non-related field (7.3%). According to Patterson's 1991 Vocational Graduate Follow-Up data (collected in March 1992), the hourly wages earned by graduates ranged from $4.00 to $7.03.

From 1987-88 through 1992-93, the Quick Start program at Sinclair Community College served 494 PCC students who earned a total of 1,860 hours of college credit in the areas of: Electronics - Robotics; Drafting - CAD/CAM; Business - Desktop Publishing; Marketing - Entrepreneurship; Medical - Introduction to Allied Health; and High Tech - College Survival. In 1990-91, 60 students left PCC high school with a total of 285 college credits.

In terms of work experience placements for PCC students, during the course of academic year 1992-1993, 232 students were employed with 123 employers, ranging, for example, from 50 students with Dayton City/Public Schools, in a variety of areas, 10 students at Auto Works, eight students at Standard Register, to one student each at Dayton Power and Light, Miami Valley Hospital, American Red Cross, and numerous medical/dental offices throughout Dayton. Most outside job coordinators have placement offices where they maintain files of resumes and serve as the link between current students as well as graduates and jobs. They also support a strong mentoring connection between PCC graduates who are in the workplace and current PCC students, especially those in the cooperative work experience programs. It is quite common for the graduates to talk about wanting to "give something back" to the school by offering to serve as supervisors or mentors to current students, giving them the encouragement and example they need to move into the workplace themselves, once they graduate from Patterson. While there are no hard numbers on how many graduates participate in this effort, the anecdotal information points to a sizable network of PCC graduates with ongoing ties to the school.

There is also a strong feeling among the teachers that the emphasis on cooperative work experiences at PCC is successful at keeping a significant number of disadvantaged students enrolled in school by offering them a non-traditional educational program, up-to-date training in skills demanded by employers, the means to make some needed money, the opportunity to work in a valued, real-world job, and the prospect of obtaining productive employment upon graduation.

Concomitantly, the articulation agreement between PCC and Sinclair Community College encourages students who had never thought about continuing their education at the postsecondary level to keep their options open. Several students in the focus group indicated that their classes at SCC had definitely influenced their decision to continue their education after they graduated from PCC. Two of the students from the medical cluster stated that they intended to become doctors and that their experiences at PCC and SCC had given them the confidence to purse that goal.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports, therefore, reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Patterson Career Center, with the intent of providing lessons learned, identifying barriers, and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

It is important to keep in mind that Patterson Career Center is a work in progress. At the time of AED/NIWL's site visit, the restructuring of PCC was barely into its second year of operation. Therefore, it would be premature to assume that any lasting structural changes or innovations have occurred, never mind taken hold. What has been taking place, that others may learn from, is an ongoing dialogue among all of the stakeholders in the community: administrators and teachers at all levels, students, parents, employers, postsecondary educators, school board members, and other representatives of the Dayton community. Benchmarks and milestones are in the process of being developed and implemented, but it would be unreasonable to expect accurate measures of success before changes have been in place for a number of years.

Given that caution, it is still possible to identify a number of factors that appear to be important to the developments at the Patterson Career Center and show promise for positive impact on student outcomes.

1. Administrative Leadership

It is highly doubtful that the current restructuring of PCC and its movement towards a participatory management style would have occurred without the vision, commitment, and persistence of PCC's principal. Referred to by superiors and staff as "Mr. Reform, Team Builder, and Risk Taker," he is widely credited with developing a unified identity, mission, philosophy, and strategic direction for the school, a willingness to share leadership roles and decision-making with his staff, and the patience to bring others along as they adapt to the new vision. The goal is to develop leadership throughout the school and institute a participatory management model in a decentralized structure. The principal has energized the staff and has inspired them with optimism, enthusiasm, and confidence. He has also worked with them to create a school environment characterized by caring, trust, and respect. Teachers feel that their ideas are not only encouraged but accepted and used to serve as the basis of reform initiatives.

While it is clear that such dynamic leadership is critical to the restructuring effort at PCC and that the current enthusiasm for reform reflects the principal's energetic leadership, there is concern that, without this individual, change might not continue, particularly since the reforms are at such an early stage. This concern is addressed, in part, by the second important component of PCC's restructuring process.

2. Teacher Empowerment and Ownership

From the outset, in all conversations about a new vision and philosophy for Patterson, teachers have been identified as the critical players in bringing about and instituting change at the building level. They have been offered extensive inservice training opportunities to learn the skills and tools needed to prepare them for effective implementation of participatory management. School administrators have created and supported a structure for instructional leadership to come from the program area clusters. Teachers feel supported in their efforts and have responded favorably to the instructional support that they receive from their other cluster members. The cluster configuration has also provided teachers with a sense of ownership in the academic and vocational integration of curriculum. It also provides for consistency across the program area.

At the same time, one of the possible barriers to teacher empowerment has been the lack of formal instruction for academic teachers in the various vocational areas. Much of the integration that has been occurring has been done on an informal basis on the individual teacher's initiative. Clearly, if the integration of the academic and vocational components are to be successful, it will be necessary to plan for and provide teachers with appropriate formal instruction, which leads to the third important component.

3. Adoption of Applied Academics

Many of PCC's teachers are committed to adopting teaching approaches that rely on applied or contextual learning, in part because of the school's emphasis on work, but also because of the needs of their students, many of whom have not done well in traditional classroom settings. By relating the classroom experience to what students are doing in their jobs, the teachers are convinced that they are keeping students in school who would have otherwise not stayed in the system.

As noted above, however, very few of the teachers have received formal assistance in using applied learning techniques. Another barrier that was noted was that most curriculum packages are designed for the more traditional classroom approaches, requiring teachers to revise existing curricula or develop their own if they wish to use applied approaches. It is likely that, eventually, the clusters will receive support from the administrative staff to collaboratively design curricula that meet the needs of their students' learning styles and build on their work experiences outside the classroom.

4. Alternation of Academic and Work Experiences

The cooperative work experience program is perhaps the earliest form of a school-to-work transition program. The Superintendent of Dayton Public Schools is very supportive of this model and believes that ultimately all schools will have to adopt a school-to-work program similar to cooperative education. In Dayton, with its long history of close ties to the employing community through PCC, cooperative education has been an important offering at the secondary level. It has provided students with the opportunity to learn skills in school that are applied directly and immediately in the workplace. It has also offered them both formal and informal mentoring on-the-job, the chance to prove their ability and worth to an employer before they graduate, and the means to earn money to help support themselves and their families. These are advantages that are all too infrequently available to disadvantaged youth, who lack the informal networks of other students.

There are barriers, however, to the adoption of cooperative education as a more widely used school-to-work strategy, including the fact that, according to the Superintendent, it is an expensive model for both the school and the employer, requiring a substantial investment in time and training. Because of the cost factor, secondary schools need financial support from the federal government to help them cover their costs. It also requires a firm, long-term commitment from employers to provide appropriate tools, training, and supervision as well as compensation. In addition, depending on economic conditions, local trade unions may be concerned that co-op students may be taking jobs away from someone else, particularly full-time adult workers.

Yet another reason why cooperative work experience is not viewed as a popular school-to-work program may be the traditionally negative stereotyping of vocational education and cooperative education programs in many communities. Perhaps the reason for its successful, long-time implementation in Dayton is due to another critical component of restructuring at PCC.

5. Long-Term Linkages to Employers

One of Patterson's greatest strengths is its long-standing, collaborative relationship with employers for the last eighty years. This relationship has withstood economic downturns, shifts in dominant industries, and changing demographics. It has been maintained at several different levels. Many of businesses' top leaders serve on a variety of DPS and PCC councils and advisory groups, committing time and resources to help ensure the viability of the public schools and to participate in developing educational strategies that are designed to meet the changing needs of industry. This has been the case since 1913, when that group of Dayton business leaders first recommended the establishment of a cooperative training school. The business community has remained an active and engaged partner of the Dayton Public Schools ever since.

At the school level, Patterson's network of outside job coordinators serves as the day-to-day link with the employer and with Patterson graduates, who provide current students with placements, training, supervision, and mentoring. These coordinators spend many hours out in the community overseeing the students at the job site and identifying possible additional businesses for participation in the school's work experience program. They are the ones who ensure that job placements are available to the students when they are ready to be placed. The coordinator's job has become more difficult over the years as: businesses have changed, downsized, or gone out of business completely; new technologies have demanded students with different skills; and the demographics of the PCC student population have shifted. Without their constant seeking out of new employers, networking with former graduates working in the community, and nurturing of existing placements, the cooperative work experience program would be difficult, if not impossible, to maintain.

6. Articulation with Local Community College

The final critical component in the restructuring of PCC has been its relationship with Sinclair Community College. As stated above, the agreement provides for joint faculty interchange and cooperation, as well as program enhancement and assessment that enable individual PCC students to receive recognition of educational efforts through the awarding of college credits for skill attainment. SCC views itself as a very accessible and innovative community college, with a high degree of responsibility for serving the members of the Dayton community, with a particular concern for the students in the Dayton Public Schools. The very fact that students can attend classes at SCC while enrolled at PCC opens doors for students who might not otherwise consider themselves candidates for education beyond the high school level.

Located just eight blocks from Patterson, SCC has worked together with staff from PCC to develop programs and opportunities that appeal to students and their parents. These include: Tech-Prep; Quick Start; summer programs for disadvantaged DPS students; career days; and apprenticeship programs, among others. Eliminating financial worries from the concerns of PCC students and their parents makes SCC an even more attractive option for students who would not be in a position to consider further formal education after graduation from PCC.

Faculty and staff from SCC and PCC frequently work together on a one-to-one basis, designing programs and curricula to meet the needs of PCC's students. While the process seems to work well much of the time, the college concedes that there are some concerns in regard to obtaining sufficient forethought in terms of pre-planing from PCC. Communication is also sometimes a problem, particularly regarding the articulation of specific courses. On the whole, however, SCC and PCC have been successful in offering programs that allow PCC students to continue their training in postsecondary education institutions, if they choose to do so.

While the six components detailed above can be instructive for other communities engaged in similar restructuring efforts, many of the people we met with in Dayton noted the importance of several important guidelines that have assisted them in their current efforts:

- Developing one-to-one relationships is important, as is turning each opportunity into a win-win situation.
- Starting small helps to guarantee success.
- Confront bureaucratic barriers up front and address them.
- Restructuring takes time - you may need to talk for a year or two before actually taking any action.
- Keep a positive attitude throughout; this is a long-term process.

- You can't be protective of your own turf; everyone has to work for the good of the student.

APPENDICES

Patterson Career Center

Vision Statement

We are a dynamic, unique and collaborative school community committed to unleashing potential in all of our students and making the world our classroom with a focus on work experiences and career exploration.

Philosophy

We, the faculty of Patterson Career Center, are committed to competency based career development of young adults through

- Interdisciplinary academic programs
  Teachers, academic and vocational, collaborate to create and implement the curriculum for Patterson students. The curriculum includes diverse vocational programs and a wide range of academic courses.

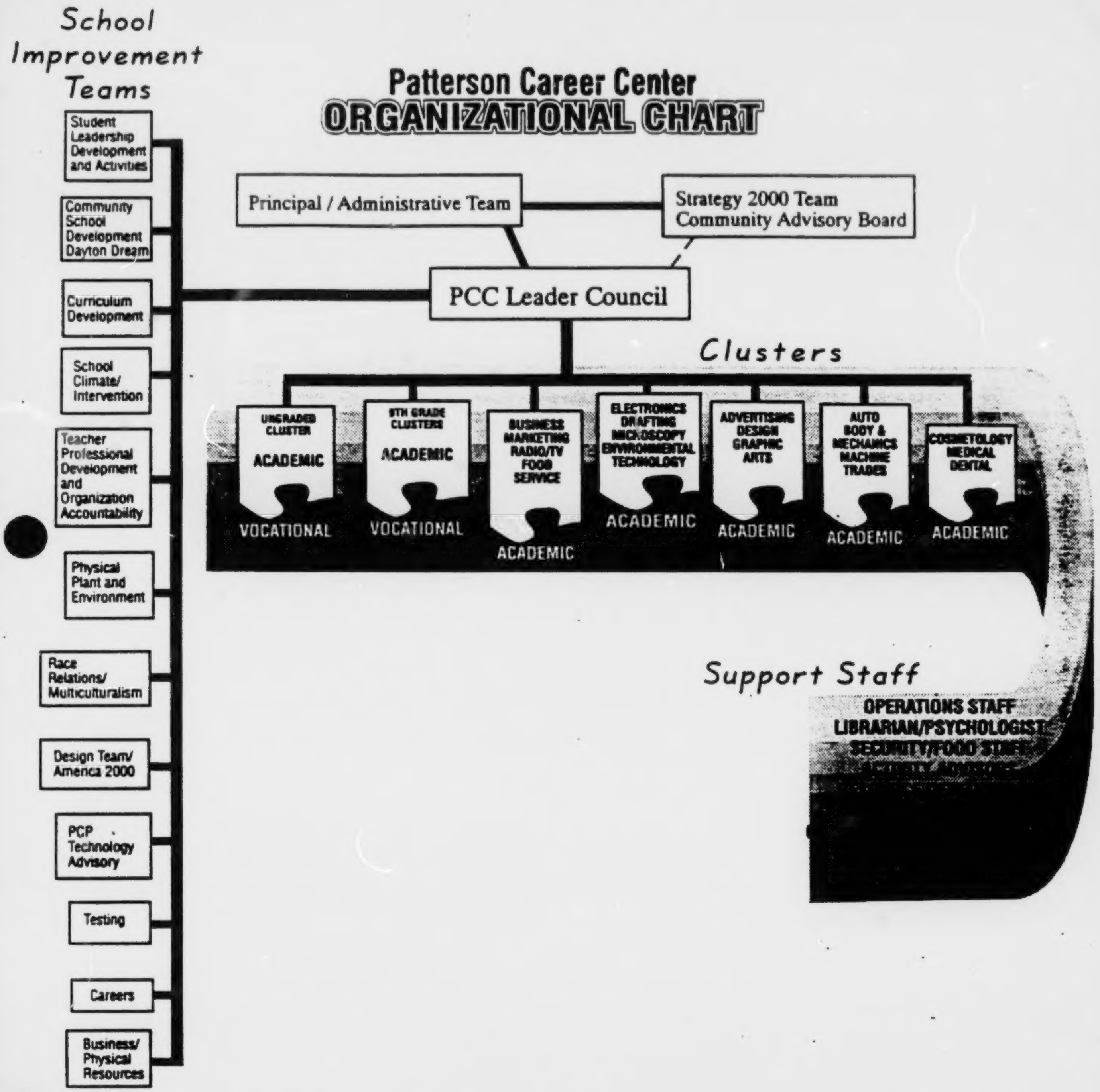
- Comprehensive vocational training
  The curriculum utilizes hands-on experience on state-of-the-art equipment. Through a continuous progression of skill-based competencies, students are prepared for entry-level work positions.

- Cooperative work experience
  Through involvement with the business community, Patterson students are exposed to the ever-changing and challenging work environment. Thus they develop realistic life long occupational goals.

- College access
  Involvement with universities provides the Patterson students with advanced education options. This emphasizes our committment to further academic studies.

1-4/92

APPENDIX B


School Improvement Teams
Patterson Career Center
ORGANIZATIONAL CHART
Student Leadership Development and Activities
Community School Development Dayton Dream
Curriculum Development
School Climate/ Intervention
Teacher Professional Development and Organization Accountability
Physical Plant and Environment
Race Relations/ Multiculturalism
Design Team/ America 2000
PCP Technology Advisory
Testing
Careers
Business/ Physical Resources
Principal / Administrative Team
Strategy 2000 Team
Community Advisory Board
PCC Leader Council
Clusters
UNGRADED CLUSTER
ACADEMIC
VOCATIONAL
9TH GRADE CLUSTERS
ACADEMIC
VOCATIONAL
BUSINESS MARKETING RADIO/TV FOOD SERVICE
ACADEMIC
ELECTRONICS DRAFTING MICROSCOPY ENVIRONMENTAL TECHNOLOGY
ACADEMIC
ADVERTISING DESIGN GRAPHIC ARTS
ACADEMIC
AUTO BODY & MECHANICS MACHINE TRADES
ACADEMIC
COSMETOLOGY MEDICAL DENTAL
ACADEMIC
Support Staff
OPERATIONS STAFF
LIBRARIAN/PSYCHOLOGIST
SECURITY/FOOD STAFF

931011 Organizational Chart

APPENDIX C

CO-OP EMPLOYMENT READINESS EVALUATION

VOCATIONAL READINESS

STUDENT'S NAME ______________________________ DATE: ______________

TYPE OF TRAINING: ______________________________

TOTAL DAYS: ______________

DAYS TARDY: ______________

DAYS ABSENT: ____________ EXCUSED __________ UNEXCUSED

1. QUALITY OF WORK (Accuracy, neatness, thoroughness)

Exceptional		Highly Accurate		Meets Requirements			Rather Careless		Inferior Work
10	9	8	7	6	5	4	3	2	1

2. QUANTITY OF WORK

Highly Productive		Rapid Worker		Moderate			Insufficient Work		Very Slow
10	9	8	7	6	5	4	3	2	1

3. KNOWLEDGE OF WORK

Excellent Comprehension		Good Understanding		Adequate			Limited		Almost None
10	9	8	7	6	5	4	3	2	1

4. ADAPTABILITY (Adjustment to change, ability to learn)

Rapid Learner		Adapts Readily		Satisfactory			Slow in Learning		Unable To Adapt
10	9	8	7	6	5	4	3	2	1

5. DEPENDABILITY (Reliability, attendance, punctuality)

Highly Reliable	Seldom Needs Checking		Usually Dependable		Needs Frequent Checking				Needs Constant Supervision
10	9	8	7	6	5	4	3	2	1

6. COOPERATION (Working with others)

Excellent Relations	Gets Along Well		Generally Cooperative			Has Difficulty		Troublemaker	
10	9	8	7	6	5	4	3	2	1

7. JUDGEMENT (Ability to make decision, plan work)

Reliable		Logical Thinker		Plans Well		Limited Judgement		Disorganized Illogical	
10	9	8	7	6	5	4	3	2	1

8. INITIATIVE (Ability to make decisions, plan work)

Highly Motivated		Considerable		Adequate			Needs Pushing		Lazy, Indifferent
10	9	8	7	6	5	4	3	2	1

9. PERSONALITY (Courtesy, appearance, public relations))

Motivated		Polite Considerable		Adequate			Needs Pushing		Lazy Indifferent
10	9	8	7	6	5	4	3	2	1

10. SAFETY (INCLUDING use and care of equipment)

Usually Conscious		Reacts Well To Safety Requirements		Usually Safe		Unable To Perceive Safe Practice		No Thought Of Safety: Poor Habits	
10	9	8	7	6	5	4	3	2	1

11. ABILITY TO REACT TO SUGGESTIONS

Excellent		Good Reaction		Accepts, But Not Positively		Passive, No Reaction		Hostility	
10	9	8	7	6	5	4	3	2	1

VOCATIONAL READINESS
(STUDENT HAS MET SUFFICIENT VOCATIONAL COMPETENCIES FOR EMPLOYMENT)

☐ Yes ☐ No

Sophomore Vocational Instructor(s): ______________________________

Coordinators ______________________________

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CO-OP EMPLOYMENT READINESS EVALUATION

ACADEMIC READINESS

SUBJECT AREAS:

AREAS OF WEAKNESS AND REASONS FOR WEAKNESS:

ACADEMIC READINESS
(STUDENT HAS MET SUFFICIENT ACADEMIC COMPETENCIES FOR EMPLOYMENT)

☐ Yes ☐ No

APPENDIX D

Patterson Cooperative High School
118 East First Street / Dayton ,Ohio 45402 / (513) 222-6301

Dayton Career Academy
441 River Corridor Dr. 45402 / 223-4401

Parent's Agreement:

As a parent/guardian, and to help insure my child's success in the program, I agree to:

1. Encourage my child to be regular in attendance at school and on the job.
2. Encourage my child to be on time at school and on the job.
3. Assume responsibility over any conduct and safety of the student from the time he/she leaves home or school until he/she reports to the job; likewise: from the time he/she leaves his/her job or school until arrival at home.
4. Assume responsibility for transporting my child to and from work.
5. Become familiar with the Patterson program and to contact the coordinator regarding any questions or problems that might arise concerning the program.
6. Be aware of the standards required to be eligible for the co-op employment.
7. Be aware of the student fees required and meet these obligations in coordination with the school.
8. Be aware of and support the standards required for the students to be eligible to receive a *Vocational Certificate of Completion.*
9. Be aware that my son/daughter agrees to complete the vocational requirements of their Division in order to participate in the school's Commencement Program.

Student's Agreement:

I understand that failure to uphold this agreement could mean dismissal from the program and I agree to:

1. Be regular in attendance at school and on the job.
2. Be on time at school and on the job.
3. Maintain my grade average at "C" or better to prove that my job is not interfering with my school work.
4. Notify coordinator of any problems on the job.
5. Not quit my job without first having a conference with my coordinator.
6. Accept and keep job interview appointments as they are given to me by coordinator.
7. Be clean, neat, and dress properly to meet requirements of my job.
8. Conduct myself on the job and in the school according to the appropriate rules, regulations and codes of conduct set by the school and employer.
9. Know the standards set by my Division and to be eligible for co-op work experience job placement and understand that I will not be placed on a job until these standards have been met.
10. Know that to fail on the job reflects not only me, but on all others placed in jobs through the various school programs. Therefore, I will do my utmost to succeed on the job, even though I may dislike the work.
11. Know there is a Vocational Club which I am willing to join and pay the nominal dues established by the advisor.
12. Assume responsibility for fee payments in cooperation with my parents/guardians.
13. Keep matters of business in strict confidence.
14. Maintain appropriate records as required by the coordinator.
15. Be in school full-time if I lose my co-op job or not have been placed on a job.
16. Be aware of and support the standards required for students to be eligible to receive a *Vocational Certificate of Completion.*
17. Be aware that if I fail to complete the requirements of my vocational division I will not participate in the school's Commencement Exercises.
18. Avoid any involvement with theft.

Coordinator 's Agreement:

As a Division Coordinator at Patterson Cooperative High School/Dayton Career Academy, my responsibilities include the following:

1. Develop a curriculum suitable for the students enrolled in the program.
2. Use modern,varied teaching techniques.
3. Make every effort to place each student in a co-op job as closely related to his/her occupational objective as is possible.
4. Visit each student's co-op work station regularly during the school year.
5. Explain the total program to each student's parent/guardian, preferably through a direct home visit.
6. To inform all parents and students about fees required for the program(e.g.: lab, book, dues).
7. To support and encourage the development of the vocational youth organization appropriate to the Division.
8. To secure an employer evaluation of the student's performance at regular intervals during the year and to inform the student of the results of these evaluations.
9. To inform students and parents / guardians about the minimum standards required by the Division for co-op work experience placement.

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Cooperative Training Plan

This **Training Plan** is to:

(1) Define clearly the conditions and schedule of training whereby the aforementioned student is to receive training as a(n) ________________ ______________________________.

(2) Serve as a guide to the cooperating parties: the student, the parents/guardians, the employer, and the Dayton Public Schools.

This Training Plan provides the student with opportunities for training in the basic skills of the occupation and the technical information related to it. In order that a systematic plan which provides for well rounded training can be followed, a schedule of work experiences and a course of study paralleling it have been developed and agreed upon by the employer and representative of the school.

The student agrees to perform diligently the work assigned by the employer according to the same company policies and regulations as apply to regular employees. The student also agrees to pursue the prescribed course of study and to take advantage of every opportunity to improve efficiency, knowledge, and personal traits to be able to enter the chosen occupation as a desirable employee at the end of the training period.

In addition to providing practical instruction, the employer agrees to pay the student for the useful work performed while undergoing training according to the following plan:

1. The beginning wage will be $__________ per __________ for __________ hours per week.
2. The vocational cooperative program at Patterson is designed as a full year course. The student must accumulate a minimum of 540 work hours during the school year to receive credit for this work phase.
3. The student trainee agrees to consult the program coordinator in regard to any complaint, **and will not sever employment with the training agency without first securing the approval of the coordinator.**
4. The employer agrees to confer periodically with the school coordinator, to furnish whatever school reports are necessary, and to notify the coordinator if any student problems arise.
5. If the student finds it necessary to be absent from work, the student will notify the employer immediately.

> *"The employer shall be responsible for the training of the student. Any additional tasks not covered in the regular vocational program curriculum that require safety training will be covered by the employer."*

Task List

The undersigned acknowledge and agree to adhere to/with all the applicable rules, stipulations, goals and suggestions on both sides of this form:

STUDENT	COMPANY/EMPLOYER REPRESENTATIVE
PARENT/GUARDIAN	NAME OF COMPANY/EMPLOYER
DATE DIVISION	COORDINATOR

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John H. Patterson Career Center

Patterson Campus
118 East First Street Dayton, Ohio 45402 / (513) 222-6301

Academy Campus
441 River Corridor Dr. Dayton, OH 45402 / 223-4401

Employer's Evaluation of Cooperative Student

Information, as checked in the spaces below, will assist us in our appraisal of the Cooperative work of—

________________________________ School Division ____________________

for the work period of ____________________ to ____________________.

It is suggested that the person most familiar with the student's work supply an impersonal and objective estimate of his/her performance by comparison with the average employee doing the same or similar work.

Please return the completed form to ____________________ by ____________________

ATTITUDE AND INTEREST
- ☐ *Enthusiastic*
- ☐ *Interested*
- ☐ *Average*
- ☐ *Somewhat indifferent*
- ☐ *Not interested*

ADAPTABILITY
- ☐ *Adjusts easily—well liked*
- ☐ *Good team worker*
- ☐ *Cooperates satisfactorily*
- ☐ *Has difficulty with others*
- ☐ *Antagonizes other workers*

ABILITY TO LEARN
- ☐ *Grasps ideas very quickly*
- ☐ *Above average*
- ☐ *Average*
- ☐ *Rather slow to learn*
- ☐ *Very slow*

QUALITY OF WORK
- ☐ *Excellent*
- ☐ *Above average*
- ☐ *Satisfactory*
- ☐ *Below average*
- ☐ *Very poor*

ATTENDANCE
- ☐ *Regular*
- ☐ *Irregular*

Total Days ______

PUNCTUALITY
- ☐ *Regular*
- ☐ *Irregular*

Total Tardies ______

[illegible]

QUANTITY OF WORK
- ☐ *Usually high output*
- ☐ *More than expected*
- ☐ *Average*
- ☐ *Less than expected*
- ☐ *Below minimum requirements*

DEPENDABILITY
- ☐ *Entirely dependable*
- ☐ *Requires little supervision*
- ☐ *Satisfactory*
- ☐ *Sometimes neglectful/forgetful*
- ☐ *Unreliable*

INITIATIVE
- ☐ *Takes hold readily*
- ☐ *Above average*
- ☐ *Goes ahead reasonably well*
- ☐ *Somewhat lacking*
- ☐ *Lazy*

JUDGEMENT
- ☐ *Displays good common sense*
- ☐ *Usually does the right thing*
- ☐ *Ordinary*
- ☐ *Sometimes uses poor judgement*
- ☐ *Very poor—rash*

Additional Comments and Concerns:

____

____

____

____

Evaluation Made By:

____
name

____
title

____
department

____
date

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

SHAWNEE HIGH SCHOOL AVIATION MAGNET

CASE STUDY REPORT

Prepared by:

Ivan Charner and Susan Hubbard
National Institute for Work and Learning
Academy for Educational Development

July 1995

1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Shawnee High School in Louisville, Kentucky the week of April 26-29, 1994 to study the Aviation Magnet Program. We were interested in examining how this programs balances the two strands of Aviation and Travel and Tourism. We were attracted to Shawnee because the program actively engages students in learning the concepts of their chosen industry through practical examples and real-life experiences.

ACKNOWLEDGEMENTS

This report could not have been written without the assistance and support of many people associated with the Shawnee High School Aviation Magnet Program in Louisville--students, coordinators, faculty, counselors, administrators, and business partners. We are indebted to Michael Rowland, Aviation Coordinator, who arranged most of our meetings, introduced us to staff and students, and shared a great deal of information about the program with us. Thanks also must go Gerald White, Travel and Tourism Coordinator, and the Aviation Magnet teachers and staff who shared their perspectives and ideas with us. These include Steve Tyra and Gary Thomas, Aviation instructors; Skip Crawford, Avionics teacher; Mike, Airframe/Powerplant Maintenance instructor; Miss Reynolds and Miss Sullivan, Travel and Tourism instructors; Mr. Robertson, Science teacher; and Mrs. Lawless, English teacher. Thanks also to John Huggins, Principal, and Joe Freschi, Assistant Principal, who shared their vision for the program and the larger school community. Booker Rice, Senior Deputy Superintendent of Jefferson County Public Schools, also provided valuable insight into the history of the program as well as an understanding of education reform in Louisville.

Many thanks are due to business partners who shared their perspectives on and experiences with the program: Wayne Soph, Delta Airlines; Rande Swann, Regional Airport Authority; Phil Vallone, UPS; and Bill Flowers, who runs the radio and television traffic reporting for the area.

Last, but not least, our thanks to all of the students who talked with us, let us observe them in their classes and at their workplaces, and watch them fly. Special thanks must go to

Tonya, who spent considerable time with us explaining her internship and her view of the Magnet program.

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INTRODUCTION

The Shawnee High School Career Academy Aviation Magnet is one of fourteen Career Academies in the Jefferson County Public School (JCPS) system. In this case study report, we explore school-to-work transition at the Aviation Magnet. Almost 50 percent of the students in Shawnee High School are currently enrolled in the Magnet program, a dramatic increase from the 10 percent just five years ago. Students in the Aviation Magnet start courses in either the aviation or travel and tourism beginning in grade 9. Students are actively engaged in learning the concepts of their chosen industry through practical examples and real life experiences. In the aviation component, students participate in flight training and can earn a Federal Aviation Administration Certified Pilot's License or Federal Communications Commission License. Students in the Travel and Tourism component participate in domestic and international internships in which they study and are responsible for all aspects of hotel, travel agency, and cruise operations.

The Aviation Magnet was created in 1989 to offer a unique opportunity to students served by the high school as well as to attract students to Shawnee High School from throughout the district. The Aviation Magnet occupies one wing of the high school with many classes having state-of-the-art equipment including: flight simulators; reservation and ticketing computer terminals; aircraft instruments; airplane engines, wings, and fuselages; and three airplanes. The Aviation Magnet is staffed by two coordinators, one for each component area; four aviation instructors; and two travel and tourism instructors. Two of the aviation instructors teach the FAA-approved pilot training curriculum, one teaches avionics, and one is preparing the extensive four-year curriculum for the FAA-approved

Airframe and Powerplant Maintenance program. Originally there were plans for an air traffic control component but it was determined that demand for air traffic controllers was not sufficient to warrant a program.

Both the aviation and travel and tourism components have very close ties with industry. The Regional Airport Authority and UPS are very active business partners. Each provides placements, equipment, and shadowing and other experiences. The Airport Authority supported the development of curriculum for elementary and middle school students, actively encourages classes and schools to visit the airport for tours, and even provides opportunities for students to experience flying. Both the Airport Authority and UPS serve on the magnet's advisory board, as do representatives from the travel and tourism industry. While the Aviation Magnet is only five years old, it has grown steadily since its inception. In 1989, 88 students enrolled in the program and this number has increased steadily to the 380 students enrolled in the program in 1994. The rapid growth has had both positive and negative consequences. On the positive side, it has given the school beneficial visibility and has offered students a way to connect to school through a career focus in a growth industry with real job and career prospects. On the negative side, internship opportunities and flight time are more limited because there are more students in the program.

This case study report is organized into six sections. Following this introduction, the report briefly describes the context within which the Aviation Magnet developed and operates. The next three sections profile the systems that support school-to-work, the learning that occurs in the school, and the learning that occurs in workplaces or through other out-of-school experiences. The fifth section discusses the impact of the program on student outcomes. The final section examines the factors that have contributed to the Aviation Magnet Program's success and identifies some problems and barriers that could impact replication.

This case study report is based on findings from a site visit made to Louisville during the week of April 26-29, 1994. Interviews were conducted with students, faculty, administrators, and employers. Observations were made of students in classroom settings and workplaces. Finally, a number of documents were collected and reviewed in preparation for the report.

CONTEXT

> *Educators must do everything in their power to encourage and assist all students to be the best they can be. By integrating vocational studies outcomes into the curriculum, teachers help students create visions for their futures and realize their full potential. In order to do that, students must lay the foundations through early exploration, planning, and periodic revision of the goals they have set for themselves.*
>
> Kentucky Department of Education

The Aviation Magnet is located at Shawnee High School, the largest school in Jefferson County. The high school is located in an urban part of the county, characterized by large proportion of low-income minority households. There is little industry in the area, and what employment opportunities there are tend to focus on small food service and retail establishments. Shawnee has 800 students, with 380 enrolled in the Aviation Magnet Program. Approximately one-third of the school is minority, achieving the court mandate of a 40% ceiling for schools in the area. In the Aviation Magnet, over half of the students are minority and there is mix of honors, special education, and students from feeder schools throughout the city.

Historically, the high school consisted of a very large disadvantaged minority population. In the late 1980s the school was identified as a school in need. Its facility was in need of renovation and its population was declining. The principal at that time was able to convince the school system to start an Aviation Magnet Program at the school. The school had the space and the principal saw this as an opportunity to attract positive attention to the school and the community. One wing of the school was renovated in 1989 to house the Magnet.

> *In this area aviation is the engine that's fueling the economy.*
> Business Representative

To understand the development and growth of the Aviation Magnet one must understand the changing nature of the local economy as well as the desire for JCPS to better meet the needs of the changing workforce in the area. In the mid 1980s, traditional manufacturing jobs in the automobile and related industries began to decline. This loss of manufacturing jobs caused the community to rethink the role of education as workforce development. The result was increased partnerships between the education and business communities. At about the same time, UPS decided to run their own operation (moving away from extensive subcontracting) and decided that Louisville would be a major hub for its operations. The result was that UPS quickly became the largest private employer in the region. With the assistance of the Airport Authority, the school system began to plan how to best meet the human resource needs of UPS and the aviation related industries that were growing in the region. The first step was to support the aviation program at Shawnee and to develop it into a career academy.

There was a recognition, however, that for the Magnet to succeed and to really respond to the changing workforce demands, it had to begin early in the educational system. As a business partner from the Regional Airport Authority put it, *"we need an aviation mindset that starts at the elementary school level."* As a result, the Airport Authority supported the development of a curriculum that uses aviation to teach and support academic concepts related to math, English, and other skills. The curriculum was developed by college professors and field tested in schools. The curriculum is provided by the Regional Airport Authority, which also sponsors teacher in-service training on use of the curriculum. The goal is to build awareness and interest of students before the eighth grade so that they select the Aviation Magnet Program when they enter high school.

Although the Shawnee Aviation Magnet started before the Kentucky Education Reform Act (KERA) was passed in 1990, this school-to-work transition reform must be viewed in the context of the larger statewide framework for a systemic transformation of K-12 education in the Commonwealth. The state's new curriculum framework outlines an approach to vocational studies that begins in the earliest years of education and proceeds systematically across all levels of schooling to add new experiences and more depth to this aspect of education.

In 1988, a new strategic approach to vocational education was developed for JCPS that had the career academy as the core element for career and technical education for high school students. The figure, "Model for Jefferson County Public Schools Magnet Career

Academy," found in the Appendix, illustrates the basic design being used by the school district to develop the career academies. The Aviation Magnet is one of fourteen academies in the district. Each academy is charged with developing an integrated academic and technical curriculum, requiring a demonstration of advanced proficiencies for graduation, and offering students a variety of transition and student support services. All students will have some form of internship, apprenticeship, or cooperative education experience. An industry advisory board has assisted with the development of each academy.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

The Aviation Magnet Career Academy provides students with the opportunity to prepare for careers in aviation or travel and tourism. The goal of the program is to increase student graduation rates by offering an educational experience that has real world applications and prepares students for careers as pilots, airline personnel, or travel agents. Aviation is the hook that seems to motivate and keep students interested in school.

> *Having the aviation program at Shawnee has provided a lot of positive attention for the school, the West End, JCPS, and the State.*
> Principal

The decision to place the Aviation Magnet at Shawnee was driven by a number of factors. First, support for the school in the community and in the district was deteriorating. Second, the Board of Education had recently visited an aviation program and recognized that such a program could serve business and students. Third, there was underutilized space at Shawnee. And finally, the principal in 1989 was very interested in attracting such a program to the school. In 1989 Shawnee was designated the Aviation Magnet for the county. A coordinator was hired for the program, but this individual had little experience in the aviation industry. As a result there was an assumption that the curriculum could be developed and put into place in a short amount of time. The reality, however, was that it would take considerable time to develop the curriculum, obtain materials and equipment, and hire appropriate faculty.

Within six months a new coordinator was hired. The new coordinator--a trained pilot and flying instructor with extensive business background--took on the responsibility of developing the aviation component. A second coordinator--an individual with years of experience in the travel and tourism industry--was hired to develop the Travel and Tourism component. Together they developed a solid program, hired teachers and instructors with industry experience, put together an Advisory Group of top-level industry representatives, and obtained equipment and resources for the Magnet program.

One of the problems that remained, however, had to do with the length of time to develop curriculum. Because the pilot training and airframe/powerplant curriculum had to be FAA approved, the curriculum needs to be spelled out in great detail. As the instructor developing the airframe curriculum pointed out, *"The FAA wants to be able to come into the school on the second Tuesday in April and be able to see in operation exactly what was approved for the FAA certification."* Thus all of the course materials, test equipment, and tools must be in place long before the first student is accepted into the program. It took a long time for school and district administrators to understand this process.

> *The benefit of the Aviation Magnet is that all kids gain a certain amount whether or not they're in the Magnet.*
> Assistant Principal

Despite these misunderstandings, there has been great support for the program from the central district and school administration. The Senior Deputy Superintendent, who has a pilot's license and who is an avid flyer, has been a strong advocate for the program. This is very important since the aviation program is expensive because of the costs of equipment, insurance, and field trips. While much of the support is made up of real and in-kind contributions from businesses in the community, the support from central administration is still vital. Within Shawnee, support for the program begins at the top. The principal feels great about the program and sees it growing. He views the students in the program as "having focus," and would like to develop other programs to help the remaining students in the school to gain a focus. The principal, however, does recognize that there needs to better integration between the academic and career areas within the school. He is also concerned that students in the Magnet may not have enough time to take all the classes they want over the four years. Participation in the Magnet requires students to take certain courses each semester and electives may get left out. Another area of concern is the perceived gap between the Magnet and the rest of the school. The attention and resources that have been given to the Aviation Magnet Program has caused some resentment in the rest of the school. The principal is working on these issues by improving communication and the accuracy of information given about the program.

Magnet Structure

The Aviation Magnet Program at Shawnee High School is a four-year program. During the first semester, all freshman in the Magnet take an 18-week Introduction to Aviation course. This course covers all aspects of the aviation and travel industry, both technical and non-technical. After completing the course, students select their area of concentration. They may select avionics or flight training under the Aviation component. Plans for an airframe/powerplant maintenance concentration are being finalized. In the Travel and Tourism component, students can concentrate on travel and tourism or customer service. The curriculum is then divided into courses that reflect the specific nature of the different areas, and students take two or three courses per semester in their area of concentration. By their junior or senior year, most of the students in Travel and Tourism are working after school in the industry, and most of the students in flight training are flying. All academic and many elective courses are taken through the other departments in the school, so the Magnet students are integrated into the rest of the school for most of their classes.

> *The students seem to rise to the level of the standards that are expected of them."*
> Teacher

The program places high expectations on the students and as a result graduation rates are higher than for the school as a whole. These high standards are made clear to students both in their classes and in their worksite experiences. These high expectations come from the faculty and staff, the program's advisory group and other business partners, and from the curriculum. Because of the industry experience of all of the staff, they convey the behavior and attitude requirements of the industry to the students. The members of the advisory groups convey the high standards necessary in the industry. Finally, for the students in the aviation component, the standards are set by the FAA and the FCC. Specifically, in order to obtain a pilot's license or avionic license, students must pass an industry test. Many of the students in the program are able to pass these high standards by their senior year.

Administration and Staffing

The Aviation Magnet occupies a separate wing at Shawnee High School, but students take most of their classes with other students in the school. Only the Magnet classes are offered in the aviation wing. The Magnet has two coordinators, one for aviation and one for travel and tourism. The aviation coordinator serves as the overall administrator for the Magnet program. These two individuals know the problems, needs, and goals of each of the students in the program. They serve as counselors, coaches, and at times parents. The primary administrative responsibilities revolve around scheduling, linking Magnet programs with other programs in the school, coordinating with business and industry, linking with school and central administration, and trouble shooting.

The teachers in the Magnet are important resources for the students. All of the teachers have extensive experience in or with the industry. The two instructors in flight technology are both pilots. The avionic instructor and the instructor developing the airframe/powerplant maintenance curriculum both have extensive experience in the industry, as do the two Travel and Tourism instructors. These hands-on experiences and connections with industry representatives is an important element of the program. These teachers are able to design industry-based curriculum; can obtain equipment and materials to use in their classrooms; and have the connections to secure internship and work experiences for their students. In the case of the two aviation instructors, they are able to relate the FAA requirements to the curriculum and fly with the students during their early in-flight training.

In addition, one of the instructors developed a curriculum for middle school students related to the aviation industry, and makes presentations to middle and elementary schools throughout the district on the aviation industry and the Magnet.

Advisory Groups

There are advisory groups for both the Aviation and Travel and Tourism components. In putting together these groups, the school "shot for the top" and went for senior level people from relevant businesses. The advisory group for Travel and Tourism, for example, consists of 50 representatives from businesses in the community, including UPS, Galt House Hotel, and the Louisville Convention Bureau. The Aviation component has representatives from UPS and the Regional Airport Authority. The advisory group members serve multiple functions. They help develop curriculum, provide important connections for the students through internships and work placements, serve as mentors, and donate equipment and materials. In addition, members of the advisory groups have done follow-up telephone interviews with program graduates to assess where they have gone and what the are doing.

> *"75% of our program is about training students how to make presentations. This includes manners, dress, attitudes, and behaviors. Students learn what is expected from mentors and on their internships experiences."*
>
> Travel and Tourism Coordinator

PROFILE: LEARNING IN SCHOOL

In addition to classes in their area of concentration, Magnet students take classes in the academic subjects. The curriculum for the aviation component is very prescribed and had to be approved by the FAA. Aviation students are required to take English, math, science and social studies through the eleventh grade and English, math, and science during their senior year. Students in Travel and Tourism are required to take four years of English, math, and science and two years of social studies.

Much of what the students learn in their Magnet classes is directly related to their career areas. For example, students in flight training are learning about vectors, flight times, and microbursts. This information is essential for passing the FAA pilot's license exam and critical to safe flying. The avionics students work on radios and other electronic equipment and are taught scientific notation and logical thinking. The Travel and Tourism students cover topics including finding employment, job interviewing, and customer service. In one of the classes, students were making presentations on cruise ship lines.

> *There is a love-hate relationship between the Magnet and the academic side.*
> Aviation Coordinator

The two program coordinators have tried to foster a good relationship with the academic teachers in the school. For example, the Travel and Tourism students cannot go on any field trips without sign-offs from all of their teachers. There are also academic competitions to determine who will be awarded the sought-after internships. In addition, academic teachers have been invited to chaperon trips (such as Travel and Tourism internships on a cruise ship in the Bahamas) to cultivate their interest in the Magnet and to help them understand what the students learning on their field experiences.

Overall, however, cooperation between Magnet teachers and other teachers in the school happens on a case-by-case basis. Teachers have been trying to find new ways of working together. There are plans to put an environmental component developed by the math, science, and technology faculty into the Travel and Tourism curriculum. In avionics, which has prerequisites of pre-algebra and algebra, the teacher has been working with a math teacher to reinforce the basic math skills of the students. He also has algebra tutor software in the class to assist students. The Travel and Tourism teachers have team-taught with academic teachers.

In addition to teaching their classes, many of the Magnet teachers serve as informal job, career, and personal counselors. They provided job leads as well as career and educational advice. The teachers in the flight training component fly with the students and can often be found at the local airport working with students. The Travel and Tourism teachers serve as co-op teachers and assess students in their work settings. The Travel and Tourism Co-op involves working at such places as the Kentucky Fair and Expo or on the Star of Louisville, while the Marketing Co-op provides students with work experiences in retail and food service jobs.

One of the most important aspects of the Magnet program is its focus on teaching the importance of social communication. Before students can start training in their career areas, they need to learn manners, punctuality, and presentation skills. This social values aspect of the program is very important because "we're in the second generation of 80% of the students not having adequate family support." The program teaches students the value systems, attitudes, and behaviors that are necessary to be successful in the world of work. All of the courses try to teach students critical life skills such as interacting with people, respect for self and others, and how to deal with any situation. These skills are taught during the first semesters of the Magnet program. They are then reinforced in the internship, work, and other out-of-school (flying) experiences. These attitudes and behaviors are also reinforced in Magnet classes during the junior and senior year. For example, the **Senior Flight Handbook**, which is for seniors in the flight training component who will be starting their actual flying lessons, has sections on discipline code; dress and grooming; school, flight training, and ground school attendance; homework; loan of equipment; as well as flight training rules and regulations.

PROFILE: LEARNING IN WORKPLACES

> *We're living now off of past success, because the businesses know how good the kids are.*
> Coordinator

Work experience in business settings is a requirement for the students in the Travel and Tourism component. Students are involved in internships, paid co-op experiences, or other paid work situations. The students in the flight training component are all required to have flying experience in their senior year.

Internships are identified by the coordinators. The value of students to businesses and the larger community has been demonstrated a number of times through the internships. For example, one of the students in the Travel and Tourism program, because of unforeseen circumstances, ran an airline counter at the airport for three and a half hours without supervision and did a great job.

In another instance, one of the students has an internship as a traffic reporter. She provides live traffic information to 16 radio stations and one television station. Her supervisor was apprehensive about having a high school student as an intern because of the nature of the work. The student did such a good job that she was hired as a part-time traffic reporter. After nine months as a part-time reporter, she was offered a full-time position. The school has developed a flexible schedule so that the student can work the A.M and P.M. shifts at the radio station and still complete the courses needed for graduation.

Students in internships or co-op programs are evaluated on the worksite by a teacher. The teachers discuss the students with the employer and observe the students as they are working to assess what is being learned and what in-school activities could help support the students.

Some of the students in Travel and Tourism have the opportunity to do international internships. A group of 20 students participated in a four-day internship on a cruise ship traveling from Florida to Nassau. The students participated in all aspects of running a cruise ship. They got up at 4:30 a.m. for staff briefings, had three hours of classes, and shadowed the ship's staff to learn how they do their jobs. To participate on this trip, students had to compete in an academic competition related to airline, hotel, and cruise ship industries. The students also had to raise some of the money to pay for the trip. The students learned valuable lessons each step of the way.

All of the students in the flight training component have had a different set of work experiences. While a few of them work part-time at the local private airport, all experience flying first hand. Federal Aviation Regulations requires a minimum of 40 hours of dual and solo flight time in preparation for the private pilot's license. The Magnet Program covers up to 52 hours of flight time for each student. The students fly in Cessna 152 aircrafts. From the outset, the aircraft is under the control of the student. As students progress they are guided through takeoffs and landings, turns, climbs, descents, and other maneuvers. The students practice takeoffs and landings leading up to their first solo flight. They then practice solo takeoffs and landings in preparation for their first cross-country flight.

The cross-country portion of the flight training provides an opportunity for students to put to use all of their flight planning skills learned in school. The instructor accompanies the student on a number of cross-country flights to make sure that the students are proficient in flying and navigation skills. Each student plans and flies three solo cross-country flights, landing at selected airports throughout the area. Night flying is also introduced during the training. At the completion of the flight training, students take the FAA Practical exam. This exam includes both an oral and flight component. Successful completion of the exam results in the issuance of a Private Pilot's license.

Two aspects of the flight training are most important. First, the students are expected and in fact required to use the skills and knowledge that they have gained from their classroom experiences over the past three years. Without this knowledge, they would not be able to fly the planes successfully and safely. A number of the students articulated the fact that they really did need to know what the teachers have been telling them in their flight technology and flight fundamentals classes.

> *So much takes place outside of the classroom. The students need to feel it, not just hear it.*
> Coordinator

The second aspect of the flight training is the role of the instructor. The instructor is as much a guide as a teacher. The instructor has the students use the information they have learned and guides them through the various elements of flying. This experience is truly one of learning by doing. The instructor lets the students experience the consequences of their actions and the students learn all of the intricacies of flying a small plane.

Despite the differences between the out-of-school experiences between students in the Travel and Tourism and Flight Training Components, it is clear that workbased learning is crucial to the success of the Magnet programs. Whether students are learning computer and customer service skills at a travel agency, cruise ship skills by shadowing employees, traffic reporting by working at a local radio station, or how to fly a plane by doing it, the workbased learning opportunities that are provided to students in the Aviation Magnet program are an essential part of the program. However, they cannot stand alone. In almost every case, it was clear that what students were learning on their jobs, internships, and flight training was supported by or dependent on what they had learned or were learning in their classes.

STUDENT OUTCOMES

> *The purpose of the program is not to train pilots but to increase graduation rates.*
> Aviation Coordinator

> *Success is measured on kid at a time.*
> Business partner

> *The Magnet program opens up a scope of the world to students. They get to travel and see new worlds.*
> Travel and Tourism Coordinator

The first class from the Aviation Magnet graduated in 1993. In terms of graduation and college-going rates, the Aviation Magnet seems to be effective. Almost 70 percent of the students who started in the Aviation Magnet completed the program. Of those who didn't complete, some returned to the regular program in the high school, others transferred to different high schools, and some dropped out. School administrators estimated that 90 percent of the students who were in the Magnet graduated.

In order to find out what happened to these students, members of the Magnet's advisory groups called each of the 59 graduates from the first class. Of the 45 who were located and provided information, 55 percent were continuing their education at community college, four-year college and universities, or trade or technical schools. Eleven of the graduates were either working (and not in school) or in the armed services.

There are other indicators that suggest that the program has been successful. Students point to the positive development of self esteem as an important outcome of their participation in the Magnet. They have come to realize that they are capable of much more that they thought. This is due in large part to the high expectations that teachers have for students and the teachers' reinforcement that the students could achieve those goals. Having a set of formal or informal standards seems to have helped students attain high levels of achievement.

For students in the Travel and Tourism component, the high expectations of their teachers is reinforced by the high standards that employers have for students in internships and work experiences. Students learn the presentation skills that are important for success in the industry. The have learned the attitudes, social skills, employability skills, and industry-related skills. Overall, business and industry has been satisfied with the students in the program and hire many of the graduates from the program. Students in the Flight Training component must meet the standards set by the FAA if they want to get their private pilot's license. Again, most of the students are able to learn the complex technical information the FAA requires as well as the requirements for the flight exam.

The students in the Magnet also seem to have a sense of motivation and direction. Many of those we spoke with said they were more serious about school because they needed to do well in school to participate in an internship or because their employer reinforced the concept that doing well in school was important.

The program has had outcomes for other students as well as those in the Magnet. Shawnee has become the aviation resource center for the school system. Shawnee sponsors field trips for non-Shawnee students, and Magnet faculty make presentations at elementary and middle schools to help them understand the Magnet program and how they interact with it and can feed into the Magnet program. One staff member developed a middle school curriculum called **The Sky's the Limit**. It is an aviation exploratory program which offers students an opportunity to learn about the field of aviation through a multi-disciplinary approach. Students learn about the science of flight, the importance of math and geography, and the history of flight. Students visit the airport, tour aviation-related businesses, and receive instruction in a full motion simulator at Shawnee High School. The program culminates with each student taking an actual flight in a training aircraft. Not only has this program helped with recruitment for the Magnet, but it has been a very effective tool for teaching middle school students about aviation and the importance of this industry to the region. It has also shown middle school teachers how different aspects of the curriculum can be taught through the lens of the aviation industry.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Shawnee Aviation Magnet, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

A number of factors have been identified by those people interviewed that appear to be critical to the success of the Aviation Magnet Program. **Visionary school leadership** brought the Aviation Magnet to Shawnee, and administrative leadership at the district, school and program level has helped it grow. The fact that the program has the support of the principal has helped overcome some of the jealousies and misunderstandings by other teachers in the school who view the Magnet as getting special attention and resources.

At the district level, support has come from the central administration through the Senior Deputy Superintendent who is a member of the city's informal "flying club." The Aviation Magnet coordinator and one of the aviation teachers are also members of this "club." The Senior Deputy Superintendent has an understanding of how this Magnet can meet the needs of business and industry and an appreciation for what the Aviation Magnet can give to students. This support has been very important to the success of the program as it has tried to educate educators about the industry and develop a program that is responsive to the needs of industry and the requirements of the FAA and FCC.

Almost everyone who was interviewed pointed to the leadership of the two coordinators as one of the essential factors that has made the program successful. The two coordinators have the ability to cut loose and be creative, energetic, entrepreneurial "hustlers" who have first-hand knowledge of the industry and almost all of the key players in the industry. They have an ability to obtain equipment, materials, resources, internships, work placements, and support for the program from a diverse set of business and school system partners.

Another important factor is the **leadership of the teachers** and instructors. All of the staff have direct experience in the industry. This has helped make the curriculum more meaningful for the students and has helped with internships and work placements. They can serve as career counselors and mentors because of their knowledge of the subject matter and the industry. The Magnet teachers are also helping to make connections with the other teachers in the school and with other schools in the district. They have team-taught classes with academic teachers, and one teacher has developed a middle school curriculum to teach students about the aviation industry. The Magnet teachers overall have been excellent spokespeople for the program and very supportive of the students. They have connected the school-based and workbased learning for the students.

The **curriculum** is another factor that has helped the program be successful. The Travel and Tourism curriculum reflected the nature of the travel and customer-service industries. Students learn on computerized ticketing equipment, handle travel arrangements, and are taught the attitude, manners, and social skills that are essential for success in these industries. The aviation students benefit from a curriculum designed to meet FAA standards for pilot instruction. This prescribed curriculum with high standards has been very important to the success of the students and the program. When combined with the flight training that takes place during the senior year, this component offers students a very high quality curriculum that combines classroom and hands-on instruction under very strict external (FAA) guidelines.

Related to the strong curriculums in both travel and tourism and aviation is the importance of the **workbased learning**. Whether this takes place through an internship, co-op work experience, paid work experience, or flight instruction, the workbased learning aspect of the Magnet program is critical to the overall programs success. Students learn firsthand about the industry, career areas, and what it means to be part of a work team. The close connection to their school-based learning is also very important. The teachers are able to link what students do in school with what they are doing in their work or flight experiences, and this connection is very important for students. It seems to motivate many of them to do better in school.

The **strong partnerships with the business community** are very important to the success of the Magnet program. The aviation industry in the area is growing and has employment prospects in many different fields. The business partners and especially the advisory group members are committed to the Magnet. They have donated time, equipment, materials, and resources to the Magnet program and to the idea that aviation is an important subject for study in the schools, not only as a career area but as a vehicle (or context) for teaching math, English, history, and other subjects. They recognize that supporting the Magnet at Shawnee High School is not enough and that they need to develop an aviation mindset in the schools. To this end, industry has supported the development of curriculum for the elementary and middle schools, field trips to the airport, scholarships for students, summer aviation camps, and donation of materials.

One of the most important contributions that the business partners have made is equipment. The Link flight trainers, computerized flight simulators and ticketing equipment have been very useful in classes. The successful development of the airframe/powerplant maintenance component, however, is dependent on donations of jet engines, fuselages, and other expensive equipment that students will need to work on if they are to meet certification standards. Without the donations from the industry partners, and a little hustling by the aviation coordinator, the maintenance program could never get FAA certification which is expected next year.

Problems and Concerns

Despite its success in terms of student outcomes, industry partnerships, and support from the community and other schools in the district, a number of problems and concerns were identified by individuals at the site. Some of these relate to the relation of the program to the rest of the school, others focus more on program expansion and replication. The barriers include:

- location of the program in a high school in a "bad" part of town.
- the challenge of ensuring that teachers and administrators understand the program and the nature of the industry. In particular, the fact that it takes considerably longer to develop an FAA-certified curriculum than to develop a vocational curriculum.

- limited understanding about the business community.

- difficulty of capacity-building, especially concerning teacher development related to academic and career integration.

- the difficulty of finding certified teachers with industry experience.

- the challenge of getting past the mindset that "public relations" and "recruitment" are frowned upon in schools.

- the difficulty of flexibility in school scheduling and logistics so that students can get all their required and elective classes, work during or after school, and participate in extracurricular activities.

- lack of transportation to get students to their internships, work experiences, and flight training.

- non-Magnet teachers feeling that the Magnet is getting more resources.

- the challenge of getting information about the Magnet to other faculty and students in the school, to other schools, and to parents throughout the district.

- isolation of the Magnet because of where it is located in the school and lack of integration with other teachers.

- the prohibitive cost of the program, and the rapidly changing nature of the aviation industry which requires up-to-date equipment and materials.

- linkages between the Magnet and academic classes need to be improved. Both sides could benefit from closer working relations. Some academic subject could be taught through the aviation subjects, while an aviation lens could be brought into academic classes.

- some individuals feel that off-site experiences should be made available to all students and teachers to help them better understand the world of work. This would require the time and resources to help more teachers establish connections with businesses.

- the challenge of developing better linkages back to the middle and elementary schools.

- the difficulty of integrating traditional school views with the feeling by some in the business community that education should be viewed as a service industry and a diploma should be based on acquisition of skills, not seat time.

- the challenge of developing and using assessment tools (portfolios, presentations, etc) that can evaluate student performance.
- the challenge of expanding the limited amount of parent involvement in the Magnet program.
- the challenge of expanding options for students in the school, beyond the Aviation Magnet.
- the challenge of increasing the number and diversity of business partners involved in the Magnet program.
- the difficulty of responding to the needs of the business partners in good time. For example, the delays in the airframe maintenance program has been of great concern to some of the partners.
- the challenge of responding to the fact that some business partners want to see a clearer link between academic and career areas so that students can see the usefulness of their academic classes.
- the limitations of the current location. There is a belief that the Aviation Academy should be located at an airport and that within 10 years it will be.

Summary

The leaders of the Aviation Magnet Program point to the fact that replication of the program is possible but requires a number of critical elements, each of which is important, but all of which are necessary. These elements include:

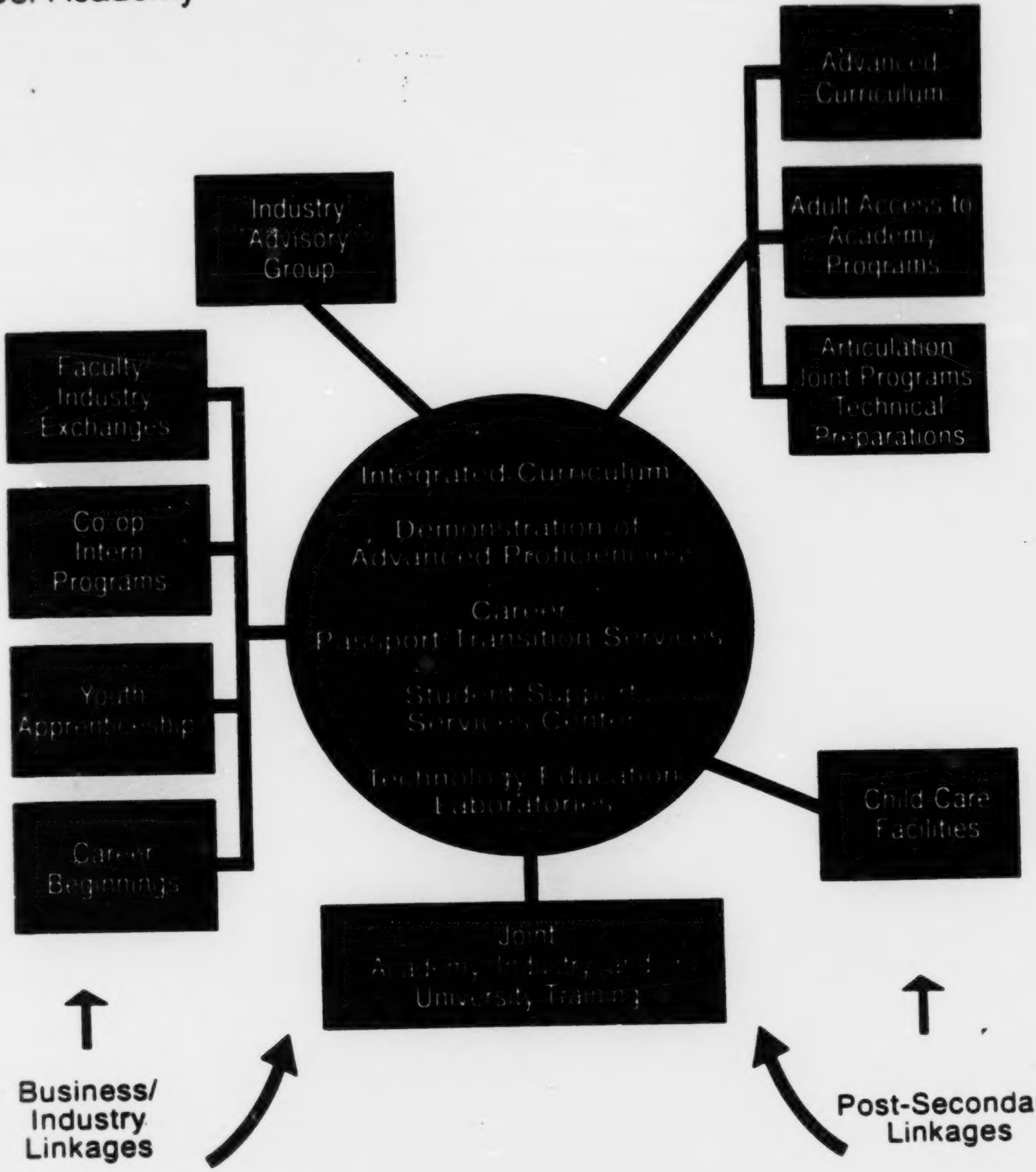
- Administrative leadership at the school and program level.
- Support from central administration.
- Instructional leadership from teachers with industry experience.
- Providing meaningful internship and work experiences that are linked to school-based learning.
- Active involvement of business partners.
- Strong public relations.

- The need for a separate location within the school but developing and maintaining close ties with the rest of the school.

- *Never stop pushing if you want change -- it moves slow.*
  Business Partner

APPENDIX

Model for Jefferson County Public Schools Magnet Career Academy


Industry Advisory Group
Advanced Curriculum
Adult Access to Academy Programs
Articulation Joint Programs Technical Preparations
Faculty Industry Exchanges
Co-op Intern Programs
Youth Apprenticeship
Career Beginnings
Integrated Curriculum
Demonstration of Advanced Proficiencies
Career Passport Transition Services
Student Support Services Center
Technology Education Laboratories
Child Care Facilities
Joint Academy, Industry, and University Training
Business/ Industry Linkages
Post-Secondary Linkages

AED
Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

BALTIMORE COMMONWEALTH

CASE STUDY REPORT

Prepared by:

Anne Rogers and Scott Menzel
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Baltimore, Maryland on March 21-23, and 28-29, 1994 to examine the Baltimore Commonwealth and its operations in the city's schools. We were especially interested in the partnership between the schools and the Baltimore Mayor's Office of Employment Development/Office of Youth Services.

ACKNOWLEDGEMENTS

We would like to acknowledge first the assistance of Karen Sitnick, Assistant Director of the Baltimore Mayor's Office of Employment Development/Youth Services, who briefed the AED/NIWL research team on the history and operations of the Commonwealth programs. Thanks also to Alice Cole, Commonwealth Management Specialist, who arranged many of our meetings with school personnel, students, Commonwealth staff, and business representatives throughout Baltimore. We are grateful as well to the other Commonwealth staff who took time from their busy schedules to meet with us, especially Lee Griffin, Kimberly Mathews, and Josephine Morgan.

We are especially appreciative of the assistance provided by representatives of Baltimore's business community. In particular, Jeffery Valentine, Vice President of the Greater Baltimore Committee, provided us with a very helpful historical view of the role of the region's business leaders in educational matters. Several employers who have worked closely with a series of students as interns or entry-level employees discussed with us their experience of the Commonwealth, including Gloria Hicks, Sharon Plate, and Luther Whiting, representatives of Hess Shoes, First National Bank, and Good Samaritan Hospital, respectively.

Our thanks also go to the principals, staff, and students of four Baltimore high schools who welcomed us to their campuses: Joseph Briscoe, Southwestern, Merganthaler, and Western. Especially helpful in guiding our interviews and observations were Jack Knott, Cristolyn Buie, and Vernon Crider.

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INTRODUCTION

Since the late 1980s, the Baltimore Commonwealth Partnership, a partnership among business, government, education, and community in Baltimore, Maryland has sought to improve the calibre of graduates from the public school system in order to ensure that more are prepared for good employment or for postsecondary education when they leave school. The partnership was born out of a shared recognition and concern that this was not the case for many graduates of the schools, which serve about 24,000 students each year.

With the leadership of the city's mayor, the Baltimore Mayor's Office of Employment Development (MOED) sought to put the plan devised by the partnership into operation. The system placed employees of MOED, called Commonwealth youth coordinators, into the city schools. It created a second category of youth coordinators, called resource coordinators, responsible for connecting employers and other resources (speakers, equipment, materials) to the schools and students in need of them. A third category of youth coordinators, community specialists, connect out-of-school youth with education and employment opportunities.

Under this structure, the leadership of MOED's Youth Services Office has sought out funding and other resources with which to underwrite a variety of services and programs for students in the city schools, including: subsidized employment, career clubs, entrepreneurship training, leadership training, transitional programs for at-risk middle schools, and financial aid for college. What they have been able to accomplish has been inevitably limited by the size of the school population, the lack of financial resources, and the many difficulties of serving a complex urban community.

CONTEXT

Commonwealth was a strategy, not a program.
Business leader

The Commonwealth Plan had its origins in discussions that began in 1986 between Baltimore business leaders and community activists. What brought them together was the painful fact that many of the young people graduating from Baltimore's high schools were utterly unemployable. The business voice was supplied by the Greater Baltimore Committee (GBC), an economic development organization that represents 750 of the larger businesses in the region, and the community voice by Baltimoreans United in Leadership Development (BUILD), a church-dominated group of community activists. These discussions led to an accord that businesses would guarantee jobs for graduates if they could meet basic criteria agreed to by business.

How to provide an infrastructure for this process was unclear, however. The then mayor became engaged in these discussions, and called together a group of decision makers, including the director of the Baltimore Mayor's Office of Employment Development (MOED), the superintendent of Baltimore City Public Schools (BCPS), and executives of BUILD, the Greater Baltimore Committee, the Private Industry Council (PIC), the Mayor's Office, and the City Council.

This group became known as the Baltimore Commonwealth Partnership. At first the Partnership met regularly--every other week--to devise a plan. The commitment they shared was to see that Baltimore students left school "prepared to catch the brass ring": to accomplish the transition from middle school--where so many students are lost--to high school graduation, prepared for work or for higher education. They agreed to a vision of the Commonwealth as a plan that would be collaborative, strategic, and aimed at tangible results.

One outcome of the Partnership's deliberations was that the Mayor's Office of Employment Development took on the challenge of creating and integrating a support system for an effort whose target population encompassed 24,000 public high school students. The result was a new division of MOED, created specifically to address the issue of youth unemployment: Commonwealth. By 1988-89 some elements of the system were in place, including a summer jobs program. A business task force evaluated the summer jobs program in 1988 and concluded that, while summer jobs are important, to make a difference in young people's lives requires year-round career preparation. The result was Baltimore Commonwealth Jobs, which got underway in 1989-90 with generous support from the Baltimore City Foundation.

On the table since the earliest conversations between BUILD and GBC had been the proposition that Baltimore business guarantee a job or access to college to every city high school graduate who met some set of criteria. For several years, the city experimented with a guarantee plan under the name of Commonwealth Plus. Any senior with at least 95 percent attendance who looked likely to earn all credits for graduation was identified for Commonwealth Plus, an average of 1,000-1,200 students per year. (The graduation requirement was waived for students with disabilities.) Commonwealth staff arranged three job interviews for each Commonwealth Plus student. A combination of Job Training Act Partnership (JTPA) and Baltimore City Foundation funds paid for the program.

Commonwealth Plus was discontinued at the end of 1992 because, as one Commonwealth staff member explained: "We had not prepared students for the jobs we'd guaranteed them." The business community was no longer willing to sustain their commitment unless the public schools reorganized its commitment to prepare students adequately. The schools, meanwhile, were experiencing many changes, including a new incumbent in the superintendent's office. Many businesses also felt too unsure of their own economic futures to make the commitment to hire. The Commonwealth Partnership agreed that until the school system structurally changed how it prepared students, business in Baltimore would support, but not guarantee, employment for graduates. The end of Commonwealth Plus, however, did not dramatically change either Commonwealth's operations or the number of students served.

When the Greater Baltimore Committee began its discussions with BUILD, the greatest threat they foresaw to the region's economic vitality was a dearth of employees to meet the anticipated expansion. The recession that arrived soon thereafter decimated Baltimore's manufacturing base and transformed the economy. Market studies by GBC in the early nineties projected that Baltimore's future would be in the "industries of the mind," and that life sciences in particular appeared to be a growth area, offering jobs to students with the proper training.

More than one hundred businesses that belong to the Greater Baltimore Committee sustain partnerships with the schools. GBC defines partnerships as those relationships that involve more than an "exchange of checks," engaging the business weekly or even daily with schools.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

The MOED/Commonwealth central office is structured to be customer-oriented. It has three major units: a unit concerned with out-of-school youth (community division), a unit that works with corporate partners and other resources (resource development), and a unit that works with schools (employability development). It was conceived of as a "United Way for Jobs," offering the city one plan and one strategy rather than a competing plethora of programs. Each unit is staffed primarily by youth coordinators, whose roles vary somewhat among units.

Underlying the Baltimore Commonwealth, both the central office and its network of school-based offices, is the concept of the team, a structure for sharing information and contacts intended to cut through the great bureaucracies of government and education typical of any major urban area. The Commonwealth school-based offices, of which there is one located in each of Baltimore's twenty-one high schools, try to motivate and prepare students for work and provide them with connections to a variety of transition services.

The school-based Commonwealth offices are staffed by a Commonwealth youth coordinator, an advisor who recruits students for career clubs and helps match their needs, occupational interests, and grade level to specific Commonwealth programs. These offices actively recruit students, staying open before and after school and during lunch. To recruit for specific Commonwealth programs, the staff go into classes in the appropriate grades. They also announce programs in school newsletters and send letters directly to parents.

It was recognized early on that this structure might lead to tension between the school guidance staff and the school-based Commonwealth offices. One way Commonwealth has attempted to ease potential tension is through the structure of the employability team at each high school, which meets every other month or so. This team brings together the resources of the city schools, the MOED, and the Greater Baltimore Committee. In its ideal form, the employability team includes four staff members of the high school: a principal or assistant principal, the guidance department head, the vocational club advisor, and a school-business contact person, usually a teacher. The team also includes three Commonwealth staff members, one from each of the central office units: a community specialist, a resource coordinator, and Commonwealth (or in-school) youth coordinator. (Although the community division works with young people who are out of school, and reaches them primarily through community-based outreach centers, the community specialist's attendance at team meetings is a vehicle for maintaining liaison with schools.) No business representatives actually sit on these teams, although the resource coordinators are intended to provide that connection. Each school also has a teen advocate, who works with teen parents, who may also sit on the team.

The team chooses from among the elements of the Commonwealth menu of programs, which ones to implement at their school. The message inherent in this approach is that Commonwealth will adapt to meet each school's needs and acquiesce to the school's leadership. Commonwealth programs have a set number of slots allocated to each high school, but sometimes schools will trade or give away slots.

There are also regional teams: Baltimore high schools are organized into six regions, headed by an area assistant superintendent, each with three to four high schools. When the school system adopted a regional structure, MOED also revamped its staffing, assigning both the Commonwealth youth coordinators and the resource coordinators by region, and creating a Commonwealth regional coordinator. The teams in each region meet three to four times a year to exchange information and review program design.

Commonwealth is also very consumer-oriented in its approach to marketing. The choice of a simple name was deliberate. Marketing approaches to students include t-shirts, posters, and grants to each school to support rewards, achievement, bus transportation, and field trips. One local radio station adopted the name, "Voice of Commonwealth," giving the name lots of air time. Indeed, the site visitors found that students not only knew of Commonwealth, but equated it with jobs.

The simplicity of the name Commonwealth and its continual broadcasting is also aimed at business. The staff tries to continually promote Commonwealth to business and to open up opportunities for business to come into the schools. Techniques for engaging business include such activities as supplements in the Baltimore Business Journal and breakfast meetings that convene people from particular industries.

Another way to market to business is to address a concern expressed to the GBC by many businesses: that they were willing and able to contribute resources to the schools, but unsure how best to allocate them under a deluge of requests from every direction--from government and community groups concerned with education as well as schools. The concept that Commonwealth adopted and promoted was a "one-stop shop" for business: one phone number, one office, one contact person, one common goal.

The resource coordinators who work out of the Commonwealth's resource development unit are the one-stop shop for business. They develop personal contacts and ongoing relationships with employers. They make job placements and deal with any issues or problems that an employer may have with a placement. The school-based teams also submit a monthly needs request to their resource coordinator, specifying such needs as speakers and materials, jobs and internships.

The role of the Baltimore Commonwealth Partnership had waned at the time of the AED/NIWL site visit. The group retained its formal existence, but in early 1994, had not met in more than a year. The disengagement of the executive leadership obviously undermined Commonwealth's prospects for long-term survival.

There was hope, however, among those involved that the infusion of funds and attention promised by the federal school-to-work initiative might renew the leadership's engagement. In fact, the original member organizations of the Commonwealth Partnership, including GBC and BUILD, are active in the Baltimore City Local School to Work Partnership, as well as representatives of higher education, social services, juvenile justice, and labor. The new partnership meets monthly. It appears that the original Commonwealth partnership may have provided the city with a foundation of collaboration around employment and educational issues upon which to build a school to work strategy.

Another important aspect of the system that supports the Commonwealth is funding. Commonwealth has tapped JTPA and state program funds, as well as some private sources like the Abell Foundation. The BCPS provides space and telephones. The Baltimore City Foundation has also provided significant funding for the Commonwealth; Commonwealth staff lead the foundation's annual campaign, which raises between $200,000 and $400,000 for Commonwealth each year.

PROFILE: LEARNING IN SCHOOLS

I try to remember that I'm a guest, even though I don't feel like I'm a guest.
Commonwealth youth coordinator

How to operate in schools without intruding was a concern of the Commonwealth staff from the outset. It was recognized that placing Commonwealth (a city government agency) in the schools might create friction over such issues as scarce space and removing students from regular classes for Commonwealth activities. Friction did occur in some schools, and Commonwealth staff tried to work through the tension by emphasizing that they offer the school "an extra pair of hands" rather than competition for resources.

The Commonwealth youth coordinator is the Commonwealth presence in the schools. Most split their time between two high schools. They facilitate the career club and advise students, trying to match individuals with appropriate elements of Commonwealth programming. In schools where the youth coordinators have successfully fit in, they are revered, as one principal remarked, as "part of the family," functioning rather as adjuncts to the guidance department.

One element of Commonwealth operating in all twenty-one Baltimore high schools is the career club. These are mostly attended by seniors, some juniors, depending on the school. Most schools can support only one career club of about thirty students: the number depends on Commonwealth staffing level. Students are pulled out of their regular classes (when possible, elective classes) one hour a week to attend the career club. They sign a contract committing themselves to be responsible for any classroom material they miss. If they cannot leave their regular class, take-home packets are available.

Career clubs offer a very structured, competency-based curriculum that covers communication, life skills, and such employability skills as resume writing, job procurement, workplace behavior, and socialization. Commonwealth staff also do a lot of one-on-one instruction, especially with students who have learning disabilities or physical or emotional impairments. There is an attendance and minimal grade requirement for students who take part in career clubs, but students who show improvement are also accepted.

Most of the other Commonwealth programs to which Commonwealth Youth Coordinators refer students are based in workplace settings, and will therefore be discussed in the next section of this report. A few Commonwealth programs based in the schools attempt to help students accomplish the difficult transition from middle school to high school, and from high school to college.

The Gold Card program operates in fifteen of Baltimore's twenty-seven middle schools. More than 8,000 students earned Gold Cards in 1992-93. The purpose is to reward students who have improved or excelled in attendance, academics, or behavior, to start them thinking about how success in class is related to success in the world. Eligible students receive discounts from stores and admission to events. Each school sets its own criteria for the Gold Card, accepted by two hundred businesses. Because schools must apply through the central Commonwealth office to be part of the Gold Card program, it has provided Commonwealth with entree into the middle schools.

The six-week College Camp for eighth grade completers includes a one-week residency at Johns Hopkins University and another week commuting to a private school, as well as four weeks in a paid work experience setting. The curriculum includes basic math and reading skills and financial aid information, and promotes the message that anyone can go to college. Commonwealth recruits by sending out letters to parents, and can accept about 100 of the 1,100 students who apply.

Commonwealth also operates Futures, funded by the state through the Maryland Tomorrow program, at six BCPS high schools. Futures began as a Commonwealth pilot project subsequently adopted by the state as a model. The first goal of the program is simply to keep students in school. Eligible students are at least fourteen years of age and identified in spring of eighth grade as most at-risk by attendance, grades, and retention criteria. Far more students are eligible than can actually enroll. Fifty students are accepted each year at each participating high school.

Futures offers instructional and advocacy components. It begins with an intensive six-week summer work experience and classroom program at the high school the student will attend. Students are paid minimum wage and prepare for the Maryland functional tests. In ninth grade students are blocked together for classes in English, math, science, and social studies. Tenth through twelfth grades emphasize computers and occupational study. The computerized learning laboratory offers remedial work, preparation for PSAT/SAT, and other individualized and performance-based instruction. In the eleventh and twelfth grades students focus on career exploration, planning, and post-high school transition.

Advocacy is considered by those involved the strongest aspect of the program. Each student is assigned an advocate who stays with him or her through high school. Each advocate, a full-time Commonwealth employee, has a caseload of about 35 students. Their work includes assessment, goal setting, home visits, and helping students negotiate the school system and personal problems. They meet at least twice a month individually with students and hold two to four group sessions monthly.

Ninety percent of Futures students work each summer from eighth grade through graduation. At the time of the AED/NIWL site visit, Futures students had a ten percent dropout rate over four years, far lower than the average for the school system.

For students who survive the transition from middle school to high school, the transition to college may be even more difficult. To help students surmount the barriers of money, knowledge, and confidence, which stop many young people from pursuing postsecondary education, the Greater Baltimore Committee created the CollegeBound Foundation. Its purpose, those involved explain, was to send a message to the community that anyone could go to college. GBC's goal was to raise $25 million: they raised $13 million quickly, by early 1994, they had $15 million and remain committed to raising another $7 million.

The CollegeBound Foundation is a 501 C.3 standing endowment with a board of directors. They began supporting students in 1989. The Foundation places nine college advisors in the city high schools every day whose message is that college is a realistic option and whose daily work is to negotiate and advocate for students and help them get through the paperwork of financial aid. All ninth grade BCPS English classes are briefed on the Foundation's message and the assistance it provides. Once the student's financial aid package is negotiated, the Foundation will contribute "last dollar" financing, up to $2,000. (The Foundation does not give money to students up front, because that amount would simply end up deducted from their financial aid.)

Every year the Foundation supports fifty to sixty students for the first time, meaning that more than 250 students have received financial support for college since its inception. As those involved point out, however, the Foundation's presentations persuade hundreds more students to begin thinking seriously about college for the first time.

PROFILE: LEARNING IN WORKPLACES

> *We help students find jobs.*
> Resource coordinator

Commonwealth subsidizes two paid employment programs: entry employment and paid internships. The goal of both these programs is to prepare students more effectively. Initially, Commonwealth required employers to commit to hiring students as regular employees, but that requirement has since been waived. The expectation remains that the students will be hired, however.

Entry employment is provided to about one hundred Baltimore high school students each year, usually tenth graders. Students work after-school or on weekends in paid positions at community-based, nonprofit organizations. They work two hours a day, for a total of ten hours per week, not to exceed 130 hours. These positions are very structured and basic, and may transition into summer employment if the student does well. One staff person is assigned to each student, and one to each work site.

Paid internships with private employers are also provided to about one hundred seniors and juniors each year. The program is promoted to employers as "a unique opportunity to receive support while they train their future workforce." Internships may be for up to twenty-three hours a week, for a total of five hundred hours, and may include after school and weekend hours. To qualify, students must have good grades and good attendance. Employers select from two top candidates for each position, and there is a two-week tryout period. In comparison to entry employment, these positions require more skills, are more "real world," and the employer is responsible for helping students develop skills. If the experience is related to in-school study, it can become a work-study arrangement and the student can leave school for part of the day. Employers are encouraged to hire the interns subsequently as regular employees.

The resource coordinator is supposed to be the business community's one-stop shop, and for many employers, this system appears to work well. Having talked with the employer about anticipated needs, the resource coordinator screens students, examining attendance, grades, instructor recommendations, and any relevant skills. Placements are open to competition from students citywide. Both the resource coordinator and the employer interview the student. Once a student is placed, the resource coordinator is responsible for seeing that the student continues to do well in school, coordinating with school-based youth coordinators.

Preparing the employer is also an important aspect of the resource coordinator's job. It includes the request to give a young person a chance, the commitment that the student will know what is expected of him or her, the commitment that the Commonwealth staff will continue to work with the student, and the commitment that the Commonwealth staff will not send a student who is not ready. Once hired, these students are treated like any other employee and must meet the same expectations. If employers have problems with a placement, they contact the resource youth coordinator. Staff asks employers not to fire students, but to let them know first: "If there's a problem, give us a chance to work on it."

Good Samaritan Hospital is an example of a business that has worked successfully with the Commonwealth program, since 1989. Historically, it had been difficult to recruit for the hospital's entry-level positions in the departments that Commonwealth students work in, like food service and housekeeping. At the time of the site visit, more than thirty Commonwealth students had held positions there, and seventeen had become regular employees. The staff member who works with Commonwealth was enthusiastic about the employees the program has brought into the hospital and described it as "easy" to work with Commonwealth. Former Commonwealth students who become hospital employees have taken advantage of the hospital's tuition reimbursement program to attend college.

First National Bank has also worked with Commonwealth since the 1980s. The bank hires students for the evening shift, two to six seniors per year. They do remittance processing for different accounts, which requires them to use the telephone and lock box, sort bills, and check payments. If eventually hired as regular employees, they have the option for promotion a year to eighteen months after they begin.

Interviews with these and other employers indicated that it was fairly typical for students to obtain real employment after their internship. In most of the entry-level areas, employers are confident that turnover will create enough openings to allow them to hire students who do well. Several employers observed that the candidates for permanent positions they obtained through internships were more motivated than regular entry-level employees, an obvious incentive to employers to continue hiring students. Other incentives for business include the fact that the labor is completely subsidized, providing them with hours of free labor. Lastly, there is the satisfaction of community service.

Commonwealth operates several programs with an entrepreneurial thrust. The Youth Entrepreneur Academy is a ten-week program on Saturday afternoons held with Baltimore City Community College, for which continuing education credits are awarded. Local entrepreneurs teach, and make presentations to the youth on such aspects of a business plan as finance, marketing, location analysis, and production. The students get together in working groups of five to actually write a business plan. The groups present their plans, explaining how they would use an award of up to $2,500 to make a profit through their business.

Five plans are selected for awards, and the students in those groups attend the LEAP (Launching Entrepreneurs into Action Program). (Losers can become employees of the winners, earning minimum wage.) Past student businesses have included t-shirts, lemonade stands, silk flowers, retail watches, floral arranging, and lawn cutting. The program has operated for more than five years, getting five businesses started each year. Each group has a supervisor for the practicum, and the Commonwealth office has oversight over the supervisors. Students learn teamwork as well as the myths and realities of planning, going into business with friends, and making your own hours. Anything left after the loan has been deducted from profits, is divided among the members, and a few businesses have seen a profit.

Selected eleventh graders may participate in one of two leadership programs: the Dale Carnegie Communications Seminar (sponsored by R. L. Cook Associates) or the Student

Leadership Seminars (sponsored by the Greater Baltimore Committee Leadership Association). The Dale Carnegie course is a seven-week Saturday morning program. In a recent year 44 juniors started the program, and 44 graduated. It is advertised through mailings to parents, and usually 600-800 students respond. Students are asked to write an essay on leadership, which is used to help select students. The three-hour workshops cover communication skills and dealing with people, and connects these lessons to the real lives and experiences of young people. There are fall and summer courses, so the program serves nearly a hundred students a year. The Commonwealth pays for the summer segment; the trainers provide the fall program at no cost.

About 25-30 high school juniors leave school once a month to attend Leadership Development Seminars run by graduates of the Greater Baltimore Committee's leadership program, a year-long program for future CEOs called Leadership Baltimore, in operation for more than a decade. They operate a version of the program tailored to the student audience.

The Career Advocates program represents another approach to workplace experience. Each year about fifty juniors across high schools are matched with an advocate in their career area. Students must have good school attendance and at least a 75 average. Once a month, those students attend seminars on college preparation and occupations. They are guaranteed a summer job as part of the program, and Commonwealth staff try to find placements related to their career interests.

Advocates are established business professionals who go through an orientation and agree to help a student map out realistic employment plans. Advocates meet with students, at first every two weeks, then four hours each month. The intention is that students will keep their advocates through the remaining two years of high school. At any one time, fifty to ninety advocates are active. Employers represented in the program include Johns Hopkins University and the Baltimore City health department. A Commonwealth staff person is assigned to facilitate the relationship, and to fill in if an advocate fails to appear.

STUDENT OUTCOMES

They help you find a job, but if you lose one, they won't cut you off.
Student

In collaboration with the PIC and MOED, the Greater Baltimore Committee spearheaded an analysis of barriers to student employment after the first two years of Commonwealth Jobs. They interviewed human resource people and Commonwealth resource coordinators. What the survey found was mismatched expectations, mutual stereotyping, and prejudiced communications--on both sides. Students did not understand corporate culture and such values as punctuality, and corporations were dismayed by the culture and clothing of students. The bottom line, one business leader explained, is that "we are not preparing students coming out of school--or college--for work, unless they know the mores of the workplace." The study confirmed an early 1980s survey of its membership by the Greater Baltimore Committee, which reported that business wanted graduates to have the skills of reading, writing, communication, and computation, but also to be on time and ready to work. GBC had hoped to see these findings have an impact on Commonwealth's programming, but reported some resistance from schools.

The CollegeBound Foundation analyses BCPS data and also tracks the records of the students whose college education it supports. The analysis shows an increase in the number of Baltimore students taking SATs and completing FAFs: 40 percent took SATS in the 1988-89 school year and 53 percent in 1990-91; 22 percent completed the FAF in 1988-89 and 33 percent in 1991-92. The number completing college applications in 1990-91 was 46 percent, nearly doubled from the previous year. Those involved believe these increases are in part attributable to the Foundation's work in the schools.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Baltimore Commonwealth, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

1. Cross-sector Collaboration Among Executive Leaders

The Baltimore Commonwealth Partnership sustained over several years the participation of executives from business, government, education, and community in a collaborative effort to improve the prospects of the city's high school graduates for employment or postsecondary education. They created an innovative plan for ensuring collaboration at an operational level and secured a guarantee of employment for graduates.

The Greater Baltimore Committee played a key role in initiating the Commonwealth and in encouraging its members to play a role in the city schools. At the time of the AED/NIWL site visit, the Partnership itself had not met for a year, but, according to those involved, the Baltimore City Local School to Work Partnership has adopted much of its purpose, collaborative impetus, and the commitment of local leaders.

Aspects of cross-sector collaboration in Baltimore that have contributed to the successes of the Commonwealth, according to those involved, include:

- the initial commitment and engagement of the executives from business, government, education, and the community
- agreement among all parties to a specific agenda
- resource sharing to carry out some aspects of the agenda

Barriers to successful collaboration have included:

- uneven participation from the school system
- severe economic recession that distracted business from education issues

2. Operational Model for Collaboration

The Partnership delegated responsibility to one member of the collaborative, the Mayor's Office of Employment Development, for carrying out the Commonwealth Plan. The result was a model for carrying out collaboration among the four sectors on the operational level.

Aspects of the model that appear to have contributed to the successes of the Commonwealth, according to those involved, include:

- one-stop shop for business and for students
- subsidies for initial employment
- school-based teams

Barriers to the plan's capacity to carry out its goals:

- ability to serve very limited numbers of students
- paperwork

3. Youth Coordinator

Commonwealth created the position of youth coordinator exclusively to coordinate the resources and personnel needed to carry out the activities of the Commonwealth Plan. Employees of the Mayor's Office of Employment Development, it is their role to try to match schools with programs, students with employers, resources with needs.

Aspects of the youth coordinator role that appear to have contributed to the successes of the Commonwealth, according to those involved, include:

- the position is devoted exclusively to Commonwealth activities
- youth coordinators maintain a presence in the schools
- resource coordinators provide business with a "one-stop shop": one phone number and one liaison to Commonwealth

Barriers to the success of the youth role coordinator include:

- youth coordinators split their time between two schools
- lack of cooperation from some school personnel

This case study of the Baltimore Commonwealth offers an informative portrait of one city's attempt to build a system through the coordinated commitment and resources of multiple sectors concerned with education and employment. From the outset, its leaders recognized the necessity of creating a lean system, one which would not add yet more layers of bureaucracy, but instead serve students and employers in a responsive and effective manner.

AED

Academy for Educational Development

National Institute for Work and Learning
An Institute of the Academy

COMPETITIVE EMPLOYMENT WORK AND TRANSITION PROGRAM
CEWAT

CASE STUDY REPORT

Prepared by:

Richard L. Horne and Anne M. Rogers
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL research team visited Charlottesville, Virginia the week of May 2-5, 1994, to study the **Competitive Employment Work and Transition (CEWAT)** program located within the city of Charlottesville Public School system. We were particularly interested in the program's focus on how the program supported the school-to-work transition of students with disabilities.

ACKNOWLEDGEMENTS

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It is not possible to thank all of the people who contributed to the AED/NIWL team's extensive research in Charlottesville. We met with more than thirty students and observed many others in career assessment, vocational training, and community-based work settings. We also met with school administrators, teachers, and guidance counselors; vocational evaluators and educators; nonprofit service organizations and private employers; experienced and dedicated job coaches; representatives from other public agencies that support disabled and at-risk youth; and toured many offices, training facilities, and places of employment.

However, this report could not have been written without the assistance of Lee Davis-Brown, Vocational Planner and Coordinator of Vocational Support Services for Charlottesville Public Schools, and Judith Bauerle, Director of Placement Services for WorkSource Enterprises, Inc. Both gave generously of their time to organize the site visit, to meet with the researchers, and to drive us from place to place.

The Charlottesville Public Schools provided us with extensive support and access. Dan Fielding, Coordinator of Vocational Education and Dr. Marie Derdeyn, Coordinator of Student Services for Charlottesville City Schools, met with us several times, explaining vocational programs and services available in the area. Sue Stoke, Mary Jane Ritchie, Pat

Edwards, Patti Cheney, and Trish Lindberg also spent time explaining the link between CEWAT and programs in the special and vocational education areas. We also thank Andrea Ekstrom, Vocational Guidance Counselor and Russ Ingersoll, Guidance Counselor for their valuable input. The Vocational Evaluators and Instructors at the Charlottesville-Albemarle Technical Education Center, Theresa Burton, Julian Taylor, Brenda Davis, Delores Johnson, and Jessie Mills met with us for extensive interviews and observations of students in career assessment and training programs. And thanks to Arletta Dimberg, Assistant Superintendent for Curriculum and Instruction, Dr. Marianne Kosiewicz, Director of Special Education and Student Services, and Bobby Thompson, Principal of Charlottesville High School for their insights into the role of administrators in the CEWAT program.

Many private organizations and public agencies provided the research team with valuable time and access. We especially thank the officers and staff of WorkSource Enterprises, Inc., for their time in meeting with us for focus groups and interviews and for providing assistance in escorting the research team to around the area to observe community-based employment settings and to interview employers and students. Judy Bauerle provided valuable assistance and coordination. Ron Enders, President, and John Santoski, Director of Rehabilitation provided us with extensive background information. We are extremely grateful for the assistance and unique insights from the Job Coaches/Employment Specialists who make CEWAT so successful - to Peggy deSibor, Eric Vanderloo, Lisa Frye, and Amy Zaborek, many thanks. Naomi Aitken, Human Resource Manager and Travis Brown, Counselor, from the Department of Rehabilitative Services also made time available for

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INTRODUCTION

This case study discusses school-to-work transition for students with disabilities and students at risk (students with chronic attendance problems, students who have repeated one or more grades, teen parents, etc.) within the **Competitive Employment Work and Transition (CEWAT)** program located in the public school system of the city of Charlottesville, Virginia. The program began in 1987 and has developed through a collaborative relationship among the school system, WorkSource Enterprises, and the local Private Industry Council/Job Training Partnership Act (PIC/JTPA). More than 100 disabled and at-risk students enroll in the program each year and are served through Charlottesville High School, which enrolls approximately 1,100 students.

The CEWAT program is designed to meet five basic objectives: to promote school and community cooperation and non-duplication of services; to increase vocational training opportunities for in-school disabled youth and at-risk students; to increase the number of students with disabilities and at-risk youth completing a high school program with a marketable skill; to increase the number of disabled and at-risk students entering postsecondary training and other educational programs; and to work with community agencies in transitioning students from school to post-school options. CEWAT uses a "working team model" which promotes non-duplication of services by coordinating resources from several agencies.

The CEWAT program operates under the concept of "competitive employment work adjustment training." Thus, CEWAT offers disabled and at-risk students the opportunity for paid work experience which can also be applied towards high school credits. With this approach, the program emphasizes the development of positive behaviors and attitudes using a rehabilitation model and supported employment in a community-based work setting. Services are delivered by experienced employment specialists, who engage students on a one-to-one basis, to help them change behaviors that constitute barriers to employment.

This report is organized into seven major sections. Following this introduction, the report briefly describes the history of CEWAT and the agencies that encompass the working team model. Next, the report profiles the systems that support CEWAT: staffing, governance, strategic planning, transportation, and so on. School-to-work transition activities based primarily in the schools are the focus of the next section, including assessment and planning. The following section profiles workplace-based programming, including the unique relationship between the CEWAT program and WorkSource Enterprises, Inc., a nonprofit employment service organization and the off-site occupational programs at the Charlottesville-Albemarle Technical Education Center. The next section discusses the impact of the CEWAT program on student outcomes, including graduation rates and post-school activities. Finally, the case study report concludes by examining factors that appear to contribute to CEWAT's success, and possible barriers to their replication.

This case study report is based on the work of AED/NIWL's research team. Two researchers visited Charlottesville during the week of May 2-5, 1994. They interviewed instructional and administrative staff, visited with other public agencies and nonprofit organizations, conducted interviews with employers and students, and observed classes and work placements in the community.

CONTEXT

"CEWAT is institutionalized now, that is, one of those things people take for granted."
-- Vocational Education Coordinator

The **Competitive Employment Work and Transition (CEWAT)** program grew out of a need to provide school and community-based school-to-work transition services for students with mild disabilities. Starting with about 10 students, with funding from the Virginia state department of education, CEWAT has developed into a collaboration of public and private agencies and programs serving 115 students in the 1993-94 school year. As the program proved its success, it evolved and expanded its target population in 1989 to include at-risk youth (e.g., those with poor attendance, who repeated one or more grades, teenage parents, etc.). The Charlottesville schools, WorkSource Enterprises, and the local PIC/JTPA have developed a collaborative relationship for service delivery. JTPA and school system funds are combined to support job seeking, subsequent training, and follow-up services necessary to ensure ongoing and successful community employment for students. By combining funds, the school is able to purchase cost-effective vocational transition support services.

The Charlottesville Public Schools serve approximately 4,500 students in seven elementary schools, one middle school, one high school, and one vocational-technical school, including about 650 students with disabilities. The student population is 50% white, 46% black, and 4% other. The school system spends almost $6,600 per student annually and enjoys one of the lowest student-teacher ratios in the state. The school system also supports many special programs, including an enrichment program in every elementary school, the

CLASS after-school enrichment program for elementary students, QUEST for gifted students, Chapter 1, and special education programs. Over the past few years, the school system has moved to integrate students with more severe disabilities into the community schools, reflecting a statewide shift from regional centers for these students. The Charlottesville-Albemarle Technical Education Center (CA-TEC) has also been reorganized to improve the delivery of career assessment and instructional programs. Finally, after facing a growing need to provide more extensive support to at-risk and severely disruptive students, the community has decided to open an alternative school using funds raised from groups and agencies throughout the city. (This alternative school was a focal issue in many of our interviews.)

Charlottesville has extensive community and parental involvement in the schools, and its school system maintains a long history of working relationships with a number of educational institutions in the area, as well as with government and business organizations. Charlottesville, only ten square miles in size, enjoys some of the benefits of small town living. Its other attractions include a rich historical and cultural heritage, a major university and several community colleges, and extensive art and music resources.

Charlottesville is also experiencing the pressures that face many, more urban areas of the United States, including an increasing disparity between socioeconomic (SES) groups. More and more people in the mid-range SES groups are moving to the less expensive suburban and rural areas, leaving the city with more well-educated and affluent citizens, predominately white, on the one hand, and a less educated, lower income, and minority population on the other. This has prompted sincere concern from civic, cultural, and business groups and the dedication of more resources to alleviate growing problems in the community: trying to lower the school system's drop out rate, reduce teenage pregnancy, support families, and curb violence and crime in the city. Results of these efforts have been noteworthy, including the successes of the school system's Reading Initiative, after-school care and recreation, and a prevention initiative credited with decreasing the dropout rate from 8.3% in 1989 to 1.9% in 1992-93.

These trends reinforce the points made by those we interviewed about both the success of CEWAT and the difficulties inherent in fostering a successful school-to-work transition system for at-risk and disabled youth during a time of significant demographic change. Interviewees pointed out that Charlottesville High School (CHS) reflects, as one counselor put it, a school population rapidly becoming "bimodal." The parents of very accomplished students, oriented to very competitive colleges, are increasingly pressuring the school to do more to meet their needs. Our interviews also revealed a concern that the at-risk and disabled students enrolled in the school required more intensive services to complete their education. Thus, the CEWAT program, with limited resources, is trying to absorb both more students with significant disabilities and more at-risk students -- populations with different needs and issues -- at the same time.

Those interviewed also pointed out that while a spirit of cooperation exists among school, business, civic, and other government organizations, the realities of the area's economy and transportation make work a difficult prospect for these students. For example, in the past five years a growing number of retail establishments have moved farther into Albemarle County along Route 29, a major north-south thoroughfare. Public transportation is inadequate, meaning that students who already must compete for retail jobs with both high school students without special needs and students from the university, now face transportation barriers as well. Thus, the lower paying service jobs remain in the city, while retail opportunities that offer better wages become harder to access.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

Two themes seem to unite the CEWAT Program. One theme is the program's working team model. Through the employment of a full-time vocational planner and coordinator of vocational support services, located within the CHS, CEWAT draws upon the resources of a working team to support students through the transition process. In addition to the vocational planner, CEWAT uses the services of a placement director and four employment specialists. This core support team is augmented by guidance counselors, vocational evaluators and instructors, regular and special education teachers, rehabilitation counselors, and an extensive network of community service programs and employers.

The vocational planner is responsible for coordinating all aspects of the program, which includes promoting awareness of the program to students and the community, and allocating the resources from diverse funding agents. The placement director is responsible for completing student intake, assisting with job development, conducting on site observations of students and employment specialists, and training and supervising the employment specialists. The employment specialist is a unique role among more typical school-based vocational support services. Employment specialists work intensively with a student on the job site for the initial four weeks of the placement and remain with the student in a support capacity throughout the student's participation in the program. They engage in multiple tasks to support students on work-related problems and needs. This includes job task analysis, instructing students about appropriate and positive work behaviors, advocacy, job development and placement, on-site support and observation of students in an employment setting, assisting the employer to understand and work with the student, follow-up, liaison with the school and job, etc.

The working team model employed by CEWAT includes multiple government agencies; nonprofit, community-based organizations; and employers. Government agencies who participate on the team include the Community Services Board, the Department of Rehabilitation Services, the school system, the courts, and JTPA/PIC. These agencies coordinate support for the program's activities, including funding. For example, the school system provides funding for the vocational planner and half the placement services, including two employment specialists. JTPA funds cover the other half of the placement services, and the PIC provides the remainder of the program funds. The Department of Rehabilitation Services provides career assessment services for eligible students as well as some instructional support. CA-TEC provides assessment and instructional services. Depending upon the level of support services needed by a particular student, CEWAT's average cost per student is $650 to $1000.

WorkSource Enterprises, Inc. is a private, nonprofit employment service organization that offers employment opportunities for persons with disabilities. Located in Charlottesville, WorkSource has served the community for over 26 years. The organization has been a major partner in CEWAT since the beginning of the program, having collaborated with the school system to obtain the federal grant that initiated CEWAT. For seven years, WorkSource has provided job placement and support services for CHS. Through this partnership, WorkSource furnishes the placement director and employment specialists.

The second theme that unites CEWAT is the "comprehensive transition planning" process, which supports students, beginning with career awareness and academic preparation, through assessment, training, placement, and follow-up, as detailed in Figure 1. As depicted, CEWAT provides an array of approaches to school-to-work transition: academic preparation, career awareness and orientation, vocational exploration, vocational assessment, occupational training, work awareness, employment, education, adult living, and follow-up. The core program components identified by its administrators include individualized services, intensive support from employment specialists, employability skills and job behavior instruction, career counseling, and paid work experience as a source of motivation for students.

Another aspect of CEWAT's process is the ease with which students enroll. The six-step process begins with a referral from the student's guidance counselor. The student then meets with the vocational planner to discuss the program and to obtain the necessary forms for a vocational assessment. Once the vocational assessment is completed, students meet with the placement director for an in-take interview. Once the required parental permission forms are received, students are assigned to an employment specialist for regular meetings and services.

Combining the working team model and the comprehensive transition planning process creates a vision of a different kind of "vocational" program that augments existing school-to-work programs. The ideal toward which CEWAT strives is to harness as many community resources as possible and to meld an array of transition services and activities in order to deliver opportunities to students with disabilities and to at-risk students who otherwise would leave school or graduate with few marketable skills.

PROFILE: LEARNING IN SCHOOLS

Career awareness, assessment, and instruction constitute the primary learning aspects of CEWAT. CEWAT incorporates three primary systems of planning. The first is the Individualized Education Plan, or I.E.P., the core of services design for students with disabilities. Annual I.E.P. planning is completed with each student and parent. CEWAT is included in this process as an option for potential participants as well as for those already enrolled. All at-risk students formally accepted into the program, as well as those with disabilities, go through this process. The second system of planning incorporates the intake interview, CHS Training Agreement, and an Individual Student Training Plan.

When it is determined that a student will not complete the requirements for a high school diploma, students and parents explore options through a third process, the Certificate of Completion. The options in this process include: (1) obtaining a GED with a vocational sequence and supervised work experience, (2) GED with supervised work experience, (3) approved vocational sequence with related academic courses and supervised work, and (4) adult education for GED preparation. Once a student is assigned to an employment specialist, program planning and monitoring becomes individually designed.

All students in the school system begin career awareness in the seventh or eighth grade. In tenth grade, all students participate in career exploration. Counselors work through classes on activities that assist students in identifying abilities, interests, and attitudes. The "Virginia View," a computerized career exploration system, is available to each student.

> *"We need to do a much more thorough assessment of at-risk kids. They have undiagnosed issues, many times. This understanding is an outgrowth of CEWAT."*
> -- Coordinator of Student Services.

CEWAT students conduct career awareness and exploration through a multitude of activities, including career assessment, individualized counseling, job shadowing, mentoring, etc. CEWAT students begin career assessment through two avenues. Students who are eligible for rehabilitation services through the Division of Rehabilitation Services (DRS), complete assessment through PERT (Postsecondary Education Rehabilitation Transition), located at the Woodrow Wilson Rehabilitation Center in Fishersville, Virginia. PERT is a cooperative effort of the Virginia state departments of education and rehabilitation, and the Virginia Association of Rehabilitation Facilities. A statewide effort, PERT provides vocational, independent living skills, and leisure skills assessment for individuals with disabilities in an intensive two-week evaluation. When students return to school, PERT assists with planning and follow-up for transition after high school. CEWAT students with disabilities are able to access PERT because of the close collaboration between CEWAT and DRS.

Most students enrolled in CEWAT obtain vocational assessment services through the Charlottesville-Albemarle Vocational Assessment Center located at CA-TEC. The

Vocational Assessment Center provides services to any students enrolled in the eighth through twelfth grades in the area. The vocational assessment provides students with the opportunity to explore career interests, identify aptitude strengths and needs, receive career counseling, learn about postsecondary options, and develop career goals and educational plans.

Counseling and guidance are among the aspects of CEWAT most noted by both the professionals and students we interviewed. Each individual on the working team provides counseling. Students are also individually supported by their employment specialist. Counseling occurs at each point of the comprehensive transition planning process.

CEWAT has developed a useful counseling and instructional tool in the form of a workbook provided to each student enrolled in the program. The book provides students with an overview of the CEWAT program, enrollment procedures, and information about their employment specialist. Several sections guide students through seeking, getting, and maintaining a job, reinforcing the hands-on experience and assistance they receive from the employment specialists and other staff members.

> *"Every day they [students] bring in stories about their jobs. If you're careful, you can tie that into your lesson."*
> -- Home Economics Teacher.

CEWAT students participate in a variety of instructional activities in diverse settings. Many special education students attend both regular academic classes and occupational classes at CHS. Some attend vocational classes at CA-TEC. As CEWAT expands services to students with more severe disabilities or emotional disorders, more relationships are being developed with teachers who instruct students in self-contained classes. These classes tend to offer more direct instruction in functional skills building and occupational areas. Most at-risk students are served in general education classes and attend occupational skills classes either at CHS or at CA-TEC.

The course offerings and occupational programs at CA-TEC are extensive. CEWAT also supports a vocational resource teacher to assist CA-TEC staff in accommodating instruction to students with disabilities or others having difficulties. CEWAT students enroll in CA-TEC programs in masonry, carpentry, auto body, culinary arts, cosmetology, fashion, child development, business applications, drafting, and technology. Students also make connections through CA-TEC to programs at Piedmont Community College in health care.

PROFILE: LEARNING IN WORKPLACES

A basic goal of CEWAT is to provide students with disabilities and at-risk youth with opportunities to experience paid, competitive employment. To achieve this goal, CEWAT is assisted by a nonprofit employment services organization, WorkSource Enterprises.

> *"The strategic alliance between the two of us [school system and WorkSource] allowed us to do what we wanted to do."*
> President of WorkSource Enterprises, Inc.

The collaboration between WorkSource and the Charlottesville Public Schools has been a critical success factor for CEWAT, those involved testify. For many years, the school system referred in-school students with disabilities to WorkSource for supported employment and sheltered workshop employment experiences, for which students received piece rate wages. In 1987, the nonprofit organization and the schools partnered in a grant competition which resulted in funding to support community-based, competitive employment for disabled students. Over time, as demographics changed and the school system saw CEWAT's success, its administration decided to expand CEWAT services to at-risk students, which occurred in the 1989-90 school year.

> *"We use an array of work options, so we can work both sides of the transition street, thereby assisting students through the challenging time between formal education and integration into the community -- with the added benefit of continuing to provide support in many cases."*
>
> -- Placement Director, WorkSource Enterprises.

WorkSource uses an array of work options, including employment on-site, off-site, mobile work crews, and community-based, competitive wage jobs. The employment services program is structured so as to stage independence and follows a rehabilitation model for service delivery. Sixty-eight percent of the CEWAT students referred in the 1992-93 school year were placed in community-based employment. WorkSource employment services include the following:

Product Division (Sheltered Employment). This component employs students on a part-time basis, at piece rate wages to work on various light manufacturing, packaging, or clerical jobs. Students attend school half of the day during the school year and may work full-time during the summer.

Janitorial Division (Supported Employment). This component provides for part-time, minimum wage jobs on mobile work crews. Again, students attend classes for at least half a day.

Placement Division (Transition Model/Competitive Employment). Most CEWAT students take part in this component. WorkSource employs employment specialists who work directly with students, offering pre-employment counseling and training, job development, placement, work site training, and follow-up support services. As the student transitions out of school into the adult world of work, some students may keep the same employment specialist. Most receive services during the school year only. A few are followed during the summer months.

Minibusinesses, (Entrepreneurial, started in April 1994). *Sweet Pea Foods* and *Breadworks* are new enterprises for WorkSource. These businesses were opened to fill in gaps in the retail sector of the area and hire students on a limited basis. Since the businesses are intended to be self-sustaining, WorkSource views this employment option as most beneficial to students in their final year of school who seek careers in the commercial food industry.

Many employers in the Charlottesville area provide placements for CEWAT students. In the 1992-93 school year, more than 33 businesses supported CEWAT students. Placements occur in food service, retail, grocery stores, gas stations, hotels, nursing homes, hospitals, and other, smaller businesses.

> *"She did a whole lot. Asked me what jobs would I like. We went out to fill out applications. She really stuck with me."*
> -- Student

> *"I know if I'm in a bind, I can call Erik, and it makes my job easier. Until I met Erik, I didn't know the resource was there, that is, I didn't know how to go to them. He came and introduced the program to me several years ago."*
> -- Dining Services Manager

> *"So what do employment specialists do? Hard to say, there are so many different roles. Drug and alcohol counseling, training, pregnancy counseling, crisis intervention, job developer, family liaison, job matching.... We do whatever to sustain students on the job and help them move up. We teach*

appropriate work skills and meet with employers to help them. We avoid the teacher/administrator role, which arouses contempt in students."
-- Employment Specialist, WorkSource Enterprises

The employment specialist role is perhaps the most significant success factor for CEWAT. Many students credit their employment specialist with changing their attitude by teaching them a sense of direction and responsibility. Teachers and administrators credit them for motivating students, building self-esteem, and teaching students to be advocates for themselves. Employers credit employment specialists with changing their attitudes about students with disabilities and students with challenging behaviors by helping them learn more about the needs of these students and how to accommodate them on the job. Employers also commented that the students are successful because the employment specialists make sure they are ready to hold a job before they pursue a placement.

The employment specialist is a professional position, requiring a bachelor's degree in rehabilitation, sociology, psychology, or a related field, and a minimum of one year of experience in providing direct services in a professional capacity to individuals with disabilities or to at-risk youth. The job description for the employment specialist identifies six major responsibilities. The first is to review all relevant client information and to interview students. Employment specialists are responsible for assessing whether or not a client is ready for employment. They also assist clients in conducting a job search, and, if appropriate, deal with employers directly. Employment specialists also maintain information about jobs in the community through a variety of sources (e.g., print, media, networking, computerized databases, etc.). Finally, employment specialists provide intensive (up to four months) of support and instruction to students in the skills necessary to maintain employment; help employers and co-workers understand the needs of students and encourage their support; conduct evaluation and follow-up; and maintain monthly contact with employers after the initial placement period.

WorkSource staff meet weekly to discuss student progress, exchange information about employment prospects, conduct problem solving, and participate in training and program development. Staff are on-site at CHS weekly and meet with students frequently. Since many students earn high school credit for their employment experiences, formal evaluations are conducted through the employment specialist, each grading period at the job site, and returned to CEWAT for reporting.

STUDENT OUTCOMES

Like most school systems and programs, CEWAT has not carried out long-term studies of student outcomes for those who have participated in the program. The program does collect information regarding the number of students referred for placements and those placed, demographics, types of placements, duration of employment, wage, and exit data. CEWAT also completes an annual survey of students with disabilities six-to-nine months after they exit school. In addition, two follow-up surveys are in process to measure the outcomes of students with disabilities from the 1985-86 and 1992-93 school years. As of this writing, no follow-up studies are planned for the at-risk population. In addition, there is no information available on the outcomes of students referred to the program, who do not make use of its services.

Table I shows the referral and placement results for the 1989-93 school years.

TABLE I
STUDENTS REFERRED AND PLACED BY THE CEWAT PROGRAM DURING THE 1989-93 SCHOOL YEARS

School Year	Students with Disabilities	At-Risk Students	Total
92-93			
Referred	63	46	109
Placed	44	29	73
91-92			
Referred	65	41	106
Placed	48	28	76
90-91			
Referred	58	45	103
Placed	43	31	72
89-90			
Referred	54	28	82
Placed	52	25	77

CEWAT received 400 referrals for placement between 1989-1993, with almost 300 students being placed, a rate of 75%. Results from the 1992-93 school year show that most students remain on their job for a period of four-to-five months; nineteen students were still working after six months. The average hourly wage for students placed was $4.93.

Follow-up data on CEWAT students with disabilities upon graduation are shown in Table II. The table shows that many CEWAT students are employed full-time or attending some form of postsecondary education.

TABLE II
OUTCOMES FOR STUDENTS WITH DISABILITIES UPON GRADUATION

Outcome by Number	1992	1991	1990	1989	1988	1987	Total
College (Four-Year or Community)	13	10	11	5	8	3	50
Vocational Training	0	4	5	3	4	1	17
Employment Full-time	12	10	13	13	10	7	65
WorkSource	0	0	0	1	0	0	1
Armed Forces	0	0	1	1	2	0	4
Unemployed Unknown	6	4	3	0	1	0	14

Looking at more subjective measures, the AED/NIWL team found evidence in observations and interviews with teachers, administrators, employment service providers, students, and employers that CEWAT has had a substantial impact on some students. Many people reported to us that they had observed students becoming more motivated and developing responsible work habits as a result of paid employment, the intensive efforts of CEWAT's working team, and participation in the comprehensive transition planning process.

There were several instances in which CEWAT students were working full-time with employers they first encountered through the program. Students credited the CEWAT staff (e.g., vocational planner, employment specialists, etc.) with changing their attitudes about school and work by making them feel like real people.

School personnel expressed great satisfaction with CEWAT. Several commented that students bring stories about their jobs to class that the teacher is able to integrate into the day's lesson plans. Teachers reported great satisfaction in hearing at-risk and disabled students show a sense of pride in their accomplishments at work and the resulting self-esteem "boost" they received.

Teachers also reported concern that the positive experiences from CEWAT did not have a direct link to improved academic or vocational outcomes in the classroom. Teachers, from both CHS and CA-TECH, reported a growing discrepancy between the academic outcomes of disabled youth and at-risk students in CEWAT. Attendance and completion rates for at-risk youth were lower than for students with disabilities. Several teachers at CHS wondered aloud whether CEWAT had been overextended by the expansion to serve at-risk students, without any increase in resources to meet their unique, perhaps more severe, needs. Several teachers commented that disabled students were accustomed to a level of services that most at-risk students are not. Finally, some educators wondered whether CEWAT would also be able to meet the needs of the more severely disabled students whom increased integration will bring into the school.

Interviews with students indicated that, through CEWAT, they had gained a stronger sense of their own strengths and weaknesses. Many students described the specific work behaviors they have developed, and most commented that the program helped them to develop the perseverance skills necessary to find and keep a job. They also discussed a range of work attitudes (e.g., attendance, punctuality, appearance, self-control, communication skills, problem-solving skills) in a manner that revealed ownership of these important attitudes and some ability to assess the degree to which they had acquired them.

Students also seemed to have acquired an in-depth knowledge of the careers to which their CEWAT experience might lead them, and a real sense of what would be required, in terms of time, money, and education, to achieve their career goal. Many students commented that CEWAT was keeping them in school and providing options for high school graduation. Many commented on how they have shifted career goals, felt comfortable leaving a job, explored various occupations, and tried things they never would have before.

Interviews with employers indicated that CEWAT provides students with the necessary skills and behaviors to succeed in a job. Many employers commented that through CEWAT, they had developed an appreciation of disabled and at-risk youth and the barriers they encounter in obtaining employment. Many believed that the support provided through CEWAT would contribute to the long-term employability of these students.

Overall, CEWAT can state its accomplishments in very constructive terms. First, through a working team that melds the resources of the schools, the nonprofit employment services sector, rehabilitation agencies, JTPA/PIC, and community support agencies, more appropriate services have been provided to students who demonstrate greater drop out rates or who exit school with few marketable skills. Through the program, increased numbers of youth with disabilities and at-risk students have participated in vocational education programs. There has been a relationship demonstrated between the decrease in the drop out rate and the increase in the numbers of at-risk and disabled youth who remain in school and complete individualized, prescribed programs of studies. Systems of referral and communication have been improved through CEWAT to enhance the transition of students from school-to-work and school-to-postsecondary education. Finally, there are cases where employers have hired youth that they would not have hired without the type of support provided through CEWAT. In some instances, these placements have led to permanent postsecondary employment.

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study reports therefore reflect the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of CEWAT, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessment of local players, rather than the judgments of the visiting research team.

1. Working Team Model

In every aspect of CEWAT we examined, we observed the process of the working team model--in program administration, implementation, and follow-up. The key stakeholders are involved in CEWAT and their collaboration is evident everywhere, among administrators, instructors, counselors, employers, employment service providers, multiple government and community agencies. The system in place encourages collaboration. In many instances, this high degree of collaboration is also systemic and internalized. In other instances, there is a significant effort to achieve automatic collaborative status.

Factors that contribute to the success of the working team model in CEWAT, identified by those involved, include:

- a working team history that dates back to a time prior to the establishment of CEWAT.
- a community-based history of successful collaborative efforts that involve both the public and private sectors.
- compatibility and spirit of collaboration among those involved in the program.
- a system, sustained by CEWAT, that supports and encourages collaboration at the implementation levels of the team.

Barriers to collaboration, identified by those involved, include:

- the need to sustain and support collaboration among individuals in top leadership positions (beyond funding issues), and allow for collaboration at multiple levels of the working team.
- the need for a mechanism to bring the working team together on a regular basis to provide input, guidance, and promotion into program activities, progress, and accomplishments.

- the need to expand the team to include active participation from the university community.

2. Leadership

A consistent factor in CEWAT is the quality of the program's leaders: their competence, commitment, vision, strategic thinking, knowledge of community, ability to collaborate and network, and political instincts.

Factors that contribute to successful leadership, identified by those involved, include:

- the quality of the program leaders, as both managers and leaders.
- the ability of the leadership to sustain the program in cooperation with multiple agencies and organizations.
- the commitment of the leadership to students with disabilities and those at-risk.
- the hiring of individuals with leadership qualities.

Barriers to the success of leadership, according to those involved, include:

- the assumption that CEWAT is an institution to which school system leaders can refer additional students without providing additional resources.
- the view of CEWAT as a job placement service rather than a comprehensive school-to-work transition system.
- the challenge of encouraging school system leaders to maintain CEWAT's success in serving students with disabilities and to create a new program, adapting CEWAT as a blueprint for new student populations.

3. CEWAT process

In describing CEWAT's success, those involved commented again and again upon the comprehensive transition planning process. Individualized programs, individualized support for students at the job site, counseling, and instruction on positive work-related behaviors were viewed especially as important elements.

Factors that contribute to the success of the CEWAT process, according to those involved, include:

- melding and coordinating the resources of multiple agencies to support and fund transition services.
- a planning process that establishes goals, actions, responsibilities, and benchmarks.
- building career awareness and assessment, exploration and occupational training, awareness of work behaviors, and expectations for independent living and postsecondary options into the program.
- the availability of employment services and placement experts who know how to develop jobs, and how to support and encourage students to develop job-related skills and behaviors.
- expansion of programs in the community college setting responsive to students with disabilities and at-risk youth.
- alternative options for completing high school are included in the planning process.
- students can earn high school credit for work experience.

- an organizational culture that rewards creativity, initiative, teamwork, and quality.
- the ease with which those involved work with the systems and procedures of multiple agencies and organizations.

Barriers to the success of CEWAT's process, according to those involved, include:

- obtaining adequate transportation for students.
- forging linkages between academic instruction (school learning) and transition (work learning).
- providing students with access to the process at an earlier age or grade.
- the attitude of a few school personnel who view CEWAT as a "referral out" system for students who are difficult to teach.
- the challenge of accommodating the technical center's courses so as to attract and retain more CEWAT students.
- maintaining program effects over the summer months.
- developing training opportunities and curriculum for careers in the health care field.

4. Employment Services

The role of WorkSource Enterprises, Inc. serves as a model for other systems focusing on school-to-work transition for these populations. It is apparent that the knowledge, expertise, and commitment of WorkSource Enterprises influences the quality of the work experience and the success that students achieve on the job site. Much of this knowledge is not available through the public schools, and most of those involved identified the WorkSource element as crucial to the success of CEWAT.

Factors that contribute to the success of employment services, identified by those involved, include:

- the use of professional and highly qualified employment specialists to facilitate transition planning, job development, placement, work-site performance, and the inculcation of positive attitudes and habits.
- employment services provided in settings natural for students, including the school, job site, home, and community.
- providing follow-up service, and including employers in this step.
- counseling and support to help students prepare for a job, stay in a job, and navigate the transition from school to work.
- multiple funding sources (schools, JTPA/PIC/DRS) to support employment services.

Barriers to employment services include:

- expanding case loads without commensurate increase in funding to employ additional employment service personnel.
- student who rely too much on their employment specialist's advocacy, rather than learning to be their own advocate.
- funding regulations that restrict the allocation of resources regardless of actual needs.
- expanding paperwork required to obtain funding.

5. Networking

CEWAT is well-connected to opportunities and services throughout the community. Staff assume active leadership in community-based organizations and services boards; some circulate in state political circles. CEWAT has established a track record in obtaining grants to pay for services and expand the program to other student populations. The program enjoys an excellent reputation with a broad array of agencies and organizations that help it to strengthen its efforts: the division of rehabilitation, the courts, TEENS Give, technical center, employers, etc.

Factors that contribute to networking, according to those involved, include:

- a history of networking, including staff connections at the local and state levels.
- funds and resources that networking has brought into the program.
- leadership who recognize the value of networking and actively support and encourage it.
- openness to new ideas and approaches.

Barriers to networking include:

- the demands it places on staff time.
- the energies required to leverage networks to produce benefits for the program.

The leadership of CEWAT recognizes that other school systems cannot simply copy a few of the critical success factors of the program--for example, the employment services component--and achieve program replication. The leaders of CEWAT also recognize that the program's success with a particular student population does not automatically transfer to others without a rededication of efforts, restructuring of approaches, and the allocation of resources to match the task. A combination of factors and elements, and a history of collaboration, when applied in the context of a comprehensive transition planning process, enables students with significant needs or disabilities to engage in meaningful school-to-work transition.

AED

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ST. LUCIE COUNTY'S PERFORMANCE-BASED DIPLOMA PROGRAM

CASE STUDY REPORT

Prepared by:

Ivan Charner
National Institute for Work and Learning
Academy for Educational Development

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1875 Connecticut Avenue, NW, Washington, DC 20009-1202
Tel. 202-884-8186 Fax 202-884-8422

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PREFACE

The United States is the only industrialized nation in the world that has no formal school-to-work transition system to help its young people navigate successfully between school and work. Until recently, the problems this caused our youth and our society received little attention. The catch phrase for American education in the 1990s, however, seems to have become "school-to-work transition."

Too often that phrase is interpreted to mean that there should be one path taken by all young people directly from the classroom to the workplace. In practice, what was once the traditional route for most young people, completing school and then entering full-time employment, has given way to a variety of paths. Our use of the term "school-to-work transition" is intended to embrace this variety: young people who leave or complete high school and seek full-time work; those who enter the workforce and undertake employer-provided training; those who work and continue their education simultaneously; those who complete relatively new programs like academies or tech prep programs and then enter the full-time labor force or continue postsecondary education; those who remain in the labor force for several years and then return for postsecondary training; and finally, those who participate in high school programs that link education to work, regardless of whether the student is anticipating continued education or entry into the workplace.

With funding from the U.S. Department of Education, the Academy for Educational Development's National Institute for Work and Learning (AED/NIWL) undertook a four-year assessment of the latter category: high school programs that link education to work. AED/NIWL conducted case studies of fourteen sites across the United States, sites which

illustrate the variety of school-to-work reform initiatives, including school-based and work-based programs, district and community-wide efforts, county-wide and state-level strategies. The research team cast the net for nominations broadly, reviewing the school-to-work literature and soliciting recommendations from a wide range of experts. We sought exemplary instances of reform, and variety: different models of change, different kinds of communities, different emphases in approach.

Information for the case studies was collected during site visits to each of the fourteen programs in 1993 or 1994. Visits were conducted by two-member research teams. A contact person identified at each site set up initial interviews and observations in consultation with the team. Over four days, the researchers interviewed a selection of the many players involved at each site: students, instructors, principals and other administrators, counselors, business partners, and other community representatives. The team conducted individual interviews and focus groups. They also observed classroom activity, meetings, and where possible, students in workplace assignments. The team gathered and reviewed existing documentation, including evaluation studies. The processes of interviewing, observation, and document review were guided by a general research protocol and a series of interview guides devised for particular audiences.

The case study reports reflect the emphasis of the AED study on documentation rather than on formal evaluation. Our primary purpose was to describe and analyze useful models and practices from which others could learn as they sought to reform education in their communities. Having established a selection process that would identify sites regarded as exemplary by the most informed policy makers and practitioners, the direction of the case

study analysis was to describe as meaningfully as possible the operation and impact of the school-to-work reform, rather than to evaluate its individual components or to compare the relative merits of the fourteen sites. From the description of each reform, the research team sought to identify the critical elements of the reform, so that practitioners reviewing the case study could adapt elements to their local circumstances.

This evaluation of school-to-work transition reform is one component of a major effort by the U.S. Department of Education's Office of Educational Research and Improvement (OERI) to study education reform. The OERI project, featuring research in twelve areas of school reform, is designed to identify practices and programs that can be replicated nationwide to improve pre-school, elementary, and secondary education. AED/NIWL is conducting the national study of school-to-work transition reform, with Nevzer Stacey serving as OERI project monitor.

The AED/NIWL researcher visited Ft. Pierce High School in St. Lucie, County, Florida, the week of May 10, 1993. We were interested in examining a performance-based program for dropouts and potential dropouts. We were drawn to Ft. Pierce High School because of the program's extensive use of computer-assisted instruction and array of linkages with the world of work.

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INTRODUCTION

This case study considers school-to-work transition for students in the St. Lucie Performance-Based Diploma Program (PBDP) at Fort Pierce High School. The program began in 1989 and serves students from four high schools in the county. The PBDP is a flexible-time program which usually involves the student for two years, but can service students from one semester to more than two years, based on individual need. An individualized academic and vocational plan is developed for each student. The academic component is mastered through self-paced computer assisted instruction (CAI) in the core areas of English, math, social studies, and science. The vocational component is achieved through a diverse set of employment, internship, and education experiences.

In addition to the CAI and variety of vocational options, there are other features which distinguish the PBDP from other school-to-work transition initiatives. First, each student develops an individualized education and vocational plan with teachers, counselors, and parents. Second, students are able to complete course elements and receive course credit on a continuous basis, enabling those who are far behind in credits to "catch up" in a relatively short amount of time. Third, student scheduling is very flexible because academic instruction is computer-based. Third, students from age 16 - 20 are grouped together in academic classes, vocational activities, and peer counseling groups.

The PBDP had completed almost four years of implementation at the time of the AED/NIWL site visit. By any number of indicators the program has been a success: dropout rates have declined, graduation rates have increased, grades have gone up dramatically, and students almost doubled their credits in one year. In addition, from indications from school and district administrators and business people in the community, the PBDP has met or exceeded all of its goals and objectives.

This case study is organized into six sections. Following this introduction, the report briefly describes the history of the PBDP and the context in which the program developed and operates. The next three sections profile the systems that support school-to-work, the learning that occurs in the school, and the learning that occurs through vocational programs, in workplaces, and at the community college. The critical role of business is discussed in this section. The fifth section discusses the impact of the program on student outcomes. The final section examines the factors that have contributed to the PBDP's success and identifies some problems and barriers that could impact replication.

This case study report is based on findings from a site visit made to St. Lucie County during the week of May 10-14, 1993. Interviews were conducted with students, faculty, counselors, administrators, program graduates, and employers. Observations were made of students in classroom settings, peer counseling sessions, work places, and community college classes. Finally, a number of documents were collected and reviewed in preparation for the report.

CONTEXT

> *The PBDP has changed the behavior of students. There are refocused and more motivated. It has saved kids.*
> District Administrator

St. Lucie is a relatively small county located on the east coast of Florida approximately 90 miles north of Palm Beach. Of its 150,000 residents, 81% are White, 19%

are Black and other racial/ethnic minorities. There are approximately 5,000 high school students in the county. The major industry in the county is citrus with a small resort and tourist trade. Local government and the school system are the largest employers in the county.

A combination of factors led to the development of the St. Lucie County Performance-Based Diploma Program (PBDP) -- a school dropout crisis and a need by employers for high school graduates with vocational and employability skills. Sixty percent of the county's ninth graders did not complete high school. Many students were disinterested, unmotivated, and discouraged by their high school experiences. They were also unfamiliar with the responsibilities, demands, and rewards of the work world. Most were unemployable, lacking vocational and academic skills, and bearing the stigma of being a high school dropout. In 1987, to reverse this trend the St. Lucie County Board of Education decided to develop a dropout prevention program that focused on the need for developing employability skills by combining academic and vocational training for students.

> *The program has given me a new way to learn and I'm not dependent on anyone else here.*
> Student

The plan for the PBDP emerged after an extensive review of a number of alternative dropout prevention programs and models. After visiting a performance-based diploma program in a neighboring county the school district administration decided that a similar approach, with some major modifications, would be a good strategy to explore. With financial support from the St. Lucie Chamber of Commerce and the Private Industry Council and with a dual enrollment agreement with the local Indian River Community College, the critical elements for the PBDP plan were born. The plan included a number of innovative features:

- an individualized educational plan leading to a standard high school diploma (not a GED),
- use of state of the art technology to deliver academic courses,
- individualized vocational training plan,
- development of leadership, public speaking, and decision-making skills,
- peer counseling,
- mentoring,
- parent involvement,
- combining students of different ages, and
- flexible scheduling.

The designers of the program worked with the State Department of Education to make sure that state performance requirements would be met. While the state wanted students to receive grades, credits, and a regular state diploma, it allowed for some flexibility in adapting computer assisted courses to the state requirements. Six vendors were considered to help design the CAI component of the program. WICAT (later bought out by Jostens Learning) was able to develop a system which matched computer courses to state requirements in English, math, social studies, and science.

In August 1989 the PBDP was implemented to serve unmotivated school dropouts and dropout-prone students. The PBDP serves students from the four high schools in the county and is housed at Fort Pierce Central High School because of its central location within the county, its proximity to the community college, and the leadership and commitment of the school principal with regard to reducing dropouts for the school district.

PROFILE: THE SYSTEM THAT SUPPORTS TRANSITION

> *We have taken a one room schoolhouse of the past, specialized that room to a specific course, added an individual computer to act as a tutor for each student with a teacher to oversee discipline, provide counseling, and personal help. The key is individualized education for each student. The combination is computer technology, a flexible curriculum and scheduling, business and parent involvement, and professional and peer counseling. This unique key and combination system has made the door of education much more desirable and challenging for most students.*
>
> Program description

The PBDP is a self-paced, mastery learning program designed as a school-within-a school. To qualify for the program students must have dropped out of school, or have extensive (18 or more) absences from school, be unsuccessful in school as evidenced by a low GPA (less than 1.8), have less than six credits accumulated for each year in high school, and have been retained one or more times and not be progressing in high school. Student participants need to catch up in credits and improve their GPA's in order to graduate. Upon completion of the program, students receive a Florida State high school diploma and vocational certification in a field of the student's choice. The general goals of the program are twofold:

1) To provide an educational program that will lead to a regular high school diploma for current dropouts and potential high school dropouts.

2) To allow credits to be earned through flexible time scheduling in the academics and creative program planning for vocational certification, and be applicable to the general educational system.

In addition, the program has four student specific goals:

1) To encourage students to master subjects needed for graduation.

2) To provide career counseling and job training.

3) To help resolve personal and social conflicts that affect students' attitudes and/or attendance.

4) To establish a link between school and the workplace.

The PBDP uses a highly individualized approach to education. Students are assessed at the outset of the program. Based on the assessment, an individualized educational and vocational plan is developed jointly among the student, counselor, and parents. The academic component of the educational plan is mastered through computer assisted instruction (CAI) which is an individualized, self-paced program. Students complete course elements and receive credit on a continuous basis, making it possible for them to obtain academic credits in a limited amount of time. Students are able to "catch up" and the immediate gratification of accumulating credits acts to motivate them. The PBDP is designed as a two-year program for students ages 16 through 20 who are in academic classes, peer counseling, and vocational programs together. For most students two years is enough time for them to accumulate sufficient credits for graduation. Some students are able to complete their requirements sooner; a few require more time -- variations that are allowed for by the program.

In addition to a state of the art CAI system that evaluates each student's progress and is based on the Florida State high school curriculum, there is a structured vocational component. Students have the option of taking traditional vocational classes at the high school, participating in a dual enrollment program at the community college, entering an internship program, or working at a job they find on their own. Also, all students in the program participate in individualized and small group peer counseling, with some students participating in a mentoring program.

Funding for the program has come from a number of sources. Early planning was supported by grants from the Treasure Coast Private Industry Council and the Chamber of Commerce. Currently the County school district supports about 60% of the $657,000 operating costs for the program. The remainder of funds comes from dropout prevention monies and three Florida Challenge Grants. The district's investment in the program has included renovation and equipping of seven classrooms in a wing of the high school, teacher and staff training, and mentoring training. In addition, there is in-kind support from local businesses and Indian River Community College covers most of the costs for the dual-enrollment program.

Administration

The PBDP operates as a school-within-a-school at Fort Pierce Central High School. The program's lead teacher serves as the program's administrator. She is assisted by a secretary who handles all data entry and linkage with the district on credit and reporting issues. The program also has three academic area teachers, a part-time counselor assigned from the school's guidance department, a learning resource teacher, a vocational/career assessment counselor and six teachers who serve as facilitators for the peer counseling component.

The primary administrative responsibilities revolve around scheduling, linking academic and vocational components, working with parents, and reporting requirements.

Teacher and peer counseling facilitator training is the responsibility of the lead teacher, who also serves as the program's liaison with central administration, the State Department of Education, the Chamber and Private Industry Council, and the media.

Reporting requirements represent the one area of administration that has been most challenging. While there is much support for the program within the district and at the state level, there has been great difficulty in developing a system for reporting credits and grades. The existing systems are geared to the regular high school curriculum where students take courses for a semester or a year and receive grades and credits accordingly. In the PBDP students are able to complete discreet competency areas in each subject area. As they complete a competency they receive a grade and obtain credits. The lead teacher and program secretary are responsible for reporting these to the school and the district. Until recently this has been done by hand and then translated into the computerized reporting system for the school district. The PBDP is trying to design its own computer program (with the assistance of the school district's computer people) that will allow credits and grades to be entered on a regular basis.

Staffing

Program staff are responsible for all aspects of the PBDP from grant writing to student recruitment to linkages with the community college and employer communities. There is a great deal of support for the program by the school's principal and administrative staff. The district superintendent and the School Board are also very supportive. The current staff have had extensive experience with the program. Four have worked with PBDP since it began four years ago, while the remaining staff have been with the program for two to three years. The staff meet on a weekly basis to review student status focusing on progress in academic subjects, attendance, and behavior. The staff are in constant contact with each other so that no student falls through the cracks. They also maintain connections to the students' parents.

Staff training is an important element of the program. All staff receive Lab Management Training from Jostens every summer. This covers the curriculum and management aspects of the CAI. In addition, there is a summer workshop in peer counseling for all facilitators. Because of the nature of the CAI labs all of the teachers need to constantly review their subjects in order to maintain the breadth of knowledge necessary to cover all of the information in each of the subject units.

PROFILE: LEARNING IN SCHOOL

> *The CAI lets students work at their own pace, get immediate feedback, and see immediate success. This makes them feel good about school, something most never felt.*
> Program Administrator

The PBDP consists of an array of academic, vocational, and counseling programs for the 160 students enrolled in the program. In addition, there are mentoring and internship components built into the program. Student admission to the program involves a number of steps. First, students are referred to the PBDP by teachers, counselors, parents, or through self referral. A screening form is then completed by the student's school-based (or former school) counselor and sent to the PBDP assessment teacher at Fort Pierce Central High School. The assessment teacher reviews and evaluates the application and makes a recommendation to the Screening Committee. The PBDP Screening Committee evaluates the candidates by reviewing applications and student records and by holding parent/student conferences when necessary. A letter of agreement for the student's admission is signed by the student, parent, and lead teacher and a letter of admission sent under the principal's signature.

Program orientation and information sessions are held throughout the school year. Parents and students are encouraged to come to these sessions where they receive specific information about the program, expectations, requirements, and admission procedures. Students are given an entrance test during these sessions. Prior to this year students were given the Test of Adult Basic Education (TABE) which assesses verbal and math skills. They are now using a WICAT test of verbal and study skills and a math screening test. Students must score at the sixth grade level in the verbal section to be eligible for admission into the program. In addition to assessing student grade level, the two-hour test helps students determine if they would like working on a computer for three hours a day. Clearly, there are some students who realize that this approach is not for them.

Academics

At the heart of the PBDP are the Computer Assisted Instruction (CAI) labs in English, math, science, and social studies. The CAI software is designed not to burn students out. It combines words, numbers, and characters for almost every unit, with the curriculum built around the Florida State Student Performance Standards. Students spend three hours a day in the CAI labs -- one hour in each major subject area -- math, English, and science/social studies. In addition, they can take their electives through the CAI if they choose.

The CAI in each academic area is very similar. Students work at their own pace on different specific subjects. In the Science lab for example, some students could be working in earth science while others are in biology, and still others are working in physical science. Within each science area students will be working on different subjects. A copy of the components for math, science, social studies, and English are provided in the Appendix as is a sample course content chart for one specific unit.

In each academic area students work at their own pace. They can complete a unit by taking a test (on the computer or paper and pencil) and may take the test as often as they like. Tests are averaged in most classes to arrive at a final grade for a unit. Performance reports are generated by the computer for each activity. Students can ask for their reports at any time. The typical report contains information on the student's status in a given course, listing activities, tests taken, scores, and average. A sample activity report is provided in the Appendix.

The teacher's role is one of classroom manager and individual tutor. As one teacher said, *"the job is more manager than teacher and the teaching becomes a momentary and individual thing."* There are some opportunities for discussion or group presentations by the teachers, but these are the exceptions to the rule. Teachers continually check activity reports, transcripts, and the status of students. They keep folders on each student with grades and copies of activity reports.

The staff know where the students are academically, on a daily basis. Each teacher and the lead teacher has a management system built into their computers. This allows them to track any student at any time and to get a general overview of the status of a class or group. Each teacher also has a telephone in the classroom, enabling the teachers to be in close contact with parents.

Because of the nature of the PBDP and the CAI labs, there is a very close relationship built up between teacher and student. The CAI provides continuous reports on the status of students in each academic subject and the one-on-one work that occurs within the labs builds a personal relationship.

In the English lab, some skills are taught off the computer. Creative writing is done in a more traditional manner with students writing short stories and poems. They use their computers to do the writing but there are no tests or scoring done by the computer. Oral presentation skills are taught through a Toastmasters program in which each student participates.

In each major subject area -- English, math, science, and social studies -- students must pass an exit exam. These exams are from the High School Competency Tests that are prepared by the state and required of all students.

Counseling

> *The peer counseling gives us an opportunity to talk with each other about anything. I feel like I belong to a group and I'm not the only one with real problems.*
> Student

The second major component of the in-school program is peer counseling. Students are grouped together with one teacher/facilitator to help one another cope with academic stress, personal problems, and social issues. The teacher/facilitator is trained in peer counseling based on "Affective skill development in Adolescents" by Constance Dembrowsky. The teacher/facilitators link with the PBDP guidance counselor on specific student or group process issues. The peer counseling groups are formed based on student time schedules. Every student, in addition to the three academic lab periods, has a fourth period for peer counseling. During one of the peer group sessions that was observed, the following topics were discussed: work, employment skills, money, and finances. Other topics that students say they have discussed are: sex, living conditions and arrangements, having children (a number are teen parents), AIDS, ways to "beat" the system, treatment by other students in the school, and classes.

PROFILE: VOCATIONAL OPTIONS

A large number of vocational options are open to the students in PBDP. Students can participate in 1) vocational programs at the high school, 2) cooperative education programs at the high school, and 3) dual enrollment programs at Indian River Community College. Specific vocational and career areas available under each option are listed below.

Fort Pierce Central High School Vocational Programs

Agricultural Production
Clerk/Typist
Business Computer Operations
Accounting
Food Production and Services
Automotive Mechanics
Distributive Education
Electronics
Agricultural Mechanics
Office Records Clerk
Secretary/Word Processing
Drafting
Marketing and Distribution
Basic Gasoline Engine Mechanics
Junior ROTC

Fort Pierce Central High School Cooperative Education

- Distributive Education
- Diversified Cooperative Education
- Business Cooperative Education

Indian River Community College (IRCC)

- Cosmetology
- Child Care Assisting
- Automotive Mechanics
- Patient Care Assisting
- Residential Carpentry
- Air Conditioning

Each student in PBDP can participate in one of the vocational programs or has the option of working or participating in an internship. Because students are required to be in their CAI labs for only three periods of instruction, they have great flexibility in their vocational program participation.

The two programs located at the high school are fairly traditional. The vocational programs are offered as classes, while the cooperative programs provide a work component. The dual enrollment program at the community college represents the innovative piece for the vocational component of PBDP. Students participate in courses with other high school students from the county. The classes are offered during regular high school hours, and transportation is provided.

> *The dual enrollment program taught me a great deal about air conditioning. I'm now working in the field and going to IRCC. The certificate I received from IRCC helped open doors for me.*
> Program graduate

The dual enrollment courses are either entirely or partially performance-based, i.e. students are assessed on their actual work performance as opposed to paper and pencil tests and written papers. The combination of the academic, vocational, and mentoring components changed his attitudes about school, work, and himself. The program gave him direction and goals. For many students, participation in the dual enrollment program has helped them with their transition to community college after completing high school.

While these programs have been beneficial for many of the students, the relationship between the school system and the community college has been somewhat problematic. There is a feeling on the part of the college that the relationship is one-way with the school system getting all the benefits. There have been turf issues that have arisen between the college programs and parallel programs at the high schools. Dual-enrollment classes have been eliminated at the college with little notice and few long term commitments have developed. This is a problem throughout the district, not only between the college and the PBDP program. In fact, as the Dean of IRCC stated, *"the relationship is better with PBDP people than with others from the school system."*

Internships

About twenty students are involved in a formal internship program. These internships involve placement of students in a structured work setting where they learn about the work organization, work environments, teamwork, and employee/employer relations. The internship is an elective credit comprising 15 hours of work per week. Each student is paid a performance bonus of up to $450 for the internship, during which the students work closely with an employer and keep a journal of activities and reflections about their experiences. The journal serves as a portfolio for demonstrating successful performance in the internship. An interview with one of the internship employers was enlightening. He reported that the student intern has been a wonderful addition to his staff. She was conscientious, hard working, and helped develop a computerized listing system for his unit. He felt that her extensive experience on computers in the CAI labs was very beneficial to her. He stated that he would be more than willing to sponsor another intern next semester and had considered hiring the first one but there was no position available in the unit.

> *As part of internships students prepare a written journal and portfolio.*
> Program Administrator

One of the students interviewed was an intern in a civil engineering facility for the city. He worked from 1 p.m. - 4 p.m. every day after school. His internship was in the field where he had hands-on experience surveying, taking measurements, and observing civil engineers at work. His journal provided detailed information on what he was doing and what he was learning through the internship. He found the internship to be very rewarding, helping him identify career areas he would like to explore.

Mentoring

> *The students in the program are more focused, goal oriented and motivated.*
> Mentor

A number of students are fortunate enough to participate in a mentoring program. Selection is on a first come first serve basis. Each of these students is matched to an adult mentor who meets with the student on a weekly basis throughout the year. The forty mentors serve a variety of functions. They act as role models for the students and offer strategies and formulas for achievement. They pass on values of the business community and help students understand the links between education and work. For some students, the mentors are a critical support system who can listen to their problems and concerns and help them arrive at strategies and solutions. They help students set short-term and longer range goals and show them how to break the cycle of failure that many have experienced. Some of the mentors continue their relationships with students after graduation.

The mentors come from many different fields. The time they spend with their students is paid for by their employers in the form of release time. AED staff met with a lawyer, teacher, newspaper reporter, homemaker, and businesswoman who had only positive things to say about the mentoring. Most felt that they had gotten as much out of the experience as their student. They all said it was possible to make the time for the program and were glad to come out to the school to meet with their students, of whom they were all very proud. As one said, "*I was like a proud parent at graduation.*" Another pointed out the importance of opening the students' eyes to the bigger world.

From the students' perspective the experience was also a very positive one. Each student interviewed felt that the mentor had changed her or his life. They recognize that they need guidance and that, for many, their parents are unable to provide it. The mentoring component for these students was a critical part of the larger program. All the students and mentors felt that each student in PBDP should have a mentor. The program is trying to increase the number of mentors to reach this goal.

The Role of Business

In addition to participation in the mentoring and internship components of PBDP, the business community has played other critical roles. At the outset and continuing through the current stage of implementation, financial support for the program has come from the

Chamber and the PIC. Some of the businesses and individual business people in the community have provided scholarships for PBDP graduates to attend college. Webster College, a local business college, has offered a full one-year scholarship to a deserving PBDP graduate. The Barnett Bank has provided resource people to the program who teach classes on employability skills, resume development, and job search.

Most of the employers who have participated in the mentoring or internship components have gone out and recruited other businesses to participate. In fact, one of the business people who is active in the Society for Human Resource Management (SHRM) has used the PBDP mentoring component as a model for adaptation by other SHRM chapters across the region. This same individual has donated money for an annual $500 scholarship for one of the students.

STUDENT OUTCOMES

> *The program gave me a better feeling about myself. My whole attitude changed because of the program. I am proud of myself.*
>
> *Being in the PBDP has given me a new sense of responsibility. I had a lot of behavior problems, it has helped me settle down and now I'm serious about graduating.*
>
> *Being in the program gives me something to look forward to every day.*
>
> Students

By any number of indicators, PBDP is very effective. Whether one looks at grades, credits, dropout rates, graduation rates, student attitudes, or post high school attainments, PBDP is a resounding success. In the first semester of the program, grades went up 200%

and by the end of the first year of operation, GPAs rose 339% from .69 to 2.34. Upon entering the program, after one to four years of high school, students had an average of 7.58 credits. After the first year students on average earned an additional 6.08 credits. Out-of-school suspensions were down and daily attendance up. Only seven percent of the students dropped out compared with 12% county wide. This is particularly significant since almost all of the PBDP students are those most at risk of dropping out. One reason suggested for these improvements in academic areas is that students now see the relationship between what they learn in school and work. A second explanation is related to learning styles and strategies. Clearly these students seem to have gravitated to the CAI mode of instruction. They enjoy the self-paced, immediate feedback, teacher-as-tutor approach to learning.

With regard to student attitudes, a survey undertaken at the end of the first year of the program showed positive attitudes with regard to self-concept, motivation for schooling, sense of control over performance, and instructional mastery. When students were asked about the program during interviews, a number of patterns emerged. First, students find it easier to get their work done. They like the fact that they can pace themselves -- working faster on some units and slower on others. They enjoy doing the work on their own and not having to listen to teacher lectures. They do not find it boring.

Second, the students have a renewed sense of motivation and direction. They all talked about being more serious about school work, wanting to graduate, and having far fewer behavior problems. The also pointed to the fact that they could graduate at any time during the school year as long as they completed the required credits and exams satisfactorily.

A third factor that they noted was the flexibility within the units. If students want to do two periods of math to make up credits, they can. If they need to go back to a unit to make sure it is understood they can do that also.

Fourth, because of the immediate feedback built into the CAI with regard to tests and credits, the students get immediate gratification and feel proud of themselves. Their goal is to accumulate enough credits to graduate, and they can easily track their own progress toward that goal.

Fifth, the students seem to like the many options available for the vocational component of the program. For some the traditional vocational program works, while others like coop; still others have found the internship experience to be rewarding.

Finally, the students were all grateful for the second (or third) chance they were getting. As one student put it, *"we have a chance to come back and change our futures."*

SUCCESS AND REPLICATION

The primary purpose of the AED study was to document and analyze useful models and practices from which others could learn, rather than to evaluate models or compare their relative merits. The case study report therefore reflects the emphasis on documentation rather than on evaluation. This final section of the report analyzes the elements that appear most critical to the success of the Performance-Based Diploma Program, with the intent of providing lessons learned and identifying best practices from which others may learn. The judgments that are offered reflect the self-assessments of local players, rather than the judgments of the visiting research team.

Why does the Performance-Based Diploma Program work so well for the students? Why do so many succeed where they failed before and why do so many "catch up" to their classmates and graduate with a regular Florida State High School diploma? Almost everyone who was interviewed pointed to the leadership of the lead teacher as one of the essential factors that has made the program successful. She was praised as being not only a visionary but a missionary as well. Students, teachers, and administrators all spoke of her administrative and communications skills, her political smarts, her support for students whom others have discarded, and her ability to generate support for the program. She is the project's "mother" in the best sense of the term and serves a similar function for a number of the students. This caring aspect is critical to the success of the program.

The lead teacher, however, could not do it alone. PBDP has the support of the school administration as well as the support of the School Board and district administration. The program has given the district a great deal of positive publicity, and this has translated into support for the program. While there are instances where the rules and regulations of the larger system get in the way of PBDP, in general the school and the district have allowed enough flexibility for the program and staff to operate effectively.

Related to these factors is the leadership that the teachers and staff bring to the project. There was general consensus that the teachers, counselors, and support staff are extremely capable. They help the students navigate a new learning system and serve as tutor, mentor, friend, role model, and task master. The success of the academic component of PBDP rests squarely on the shoulders of the teaching staff. While the computer provides the lessons and tests that each student must master, the teachers must manage a classroom with 30 students on 30 different lessons at varying levels and be able to help any student at any time. This calls for a teaching staff who are not only dedicated but are expert in their subject area and able to manage what at times is an ambiguous learning situation.

The ongoing communication among the staff is another factor that facilitates success of the program. The teachers and staff meet weekly and share information about students and discuss problems or concerns regarding the program. They share strategies and stories and gain a very thorough understanding of the students they are serving. This deep understanding of each student and her or his problems, strengths, and weaknesses helps support the learning process.

The very nature of the CAI system is a factor that has led to the success of the program. The system has been designed as a self-paced, open entry-open exit system that meets all the state standards for a high school diploma. Students are able to attain immediate gratification through the CAI by completing units, taking tests, getting grades, and achieving credits. The system allows for individualization and flexibility and constant reporting and feedback to students. The CAI system has been designed to respond to all program needs from entry testing and assessment to curriculum presentation and assessment. The computers are user friendly and students say that they enjoy working on them. When asked why they like the program, students said that *"we have fun and get credits and we have something to look forward to every day."* A number of students said that it was much easier for them to get their work done and they liked the fact that *"we can go back and review things that we learned before to learn them again."* For most the immediate gratification is critical. As one student said, *"I like that I can get my score after each unit and know how many credits I* *now have. My goal is to get enough credits to graduate on time."* The CAI and the overall program have given the students "a renewed interest in learning." As one student pointed out, *"the program has shown me a new way to learn and I'm not dependent on anyone else here."*

Many individuals pointed to the peer counseling component as being very important to the success of the program. It provides an opportunity for the students to talk with each other about anything. As they all said, *"we talk about drugs, sex, and rock and roll!"* In reality they talk about a great number of issues ranging from work, to school, to personal problems. Most of the students feel that these sessions provide a place to share and to realize that they are not the only one with real problems. The fact that these groups have students of different ages and are coed do not seem to inhibit discussions. A number of the teacher/facilitators noted that the students might be inhibited at the outset but they soon will discuss anything.

For those students who have parents present in their lives, the parent involvement with the program is very helpful. From the admission process through graduation the program works closely with parents. They let them know about problems and share successes. As the teachers pointed out, knowing that they can call a parent on the phone and tell him or her that their child is messing up is really helpful. More than this "negative" influence, the parents have been very supportive of the program. This positive support is valued by all the program staff.

The vocational options available to students is another important factor. Despite the problems and issues addressed earlier, it is important for PBDP to have different options for the vocational component. That fact that students can take vocational classes, participate in the high school cooperative education program, enroll in the dual-enrollment program, serve an internship, or work on their own builds in a great deal of flexibility into the program. While these options are uneven and relate to the academic component in different ways it is critical that a wide array of vocational options are available to the students in the program.

The last factor that has facilitated the success of the program is the mentoring component. Despite the fact that not all of the students who want one are able to have a mentor, for those that do this component has been a significant one. Every student pointed to her or his mentor as being very important to their success in the program. In return, the mentors all felt that they had gained at least as much from their relationship as the student. Having an opportunity to share with and learn from a caring adult is very meaningful to the lives of these students and to the success of the program.

Problems and Concerns

Despite its successes with large numbers of dropout prone students, a number of problems and concerns were identified by individuals at the site during interviews and meetings. Some of these relate to the current operation of the program, while others tend to focus on program expansion and replication.

One of the major problems faced by the program is transportation. This is particularly problematic for students in the dual-enrollment program. In order to keep on their county-wide schedules, school buses must leave the high school for the community college at a set time and they must return from the college at a set time. Often these times do not coincide with student schedules or needs. There is little flexibility for students on either end. Despite some scheduling flexibility on the part of the community college, the transportation situation does not enable students to stay after classes to meet with instructors or complete projects.

A second problem area is the school schedule. Despite the fact that PBDP has flexibility within the school day, there is little flexibility beyond it. In other words, if there are some students who would prefer to attend school in the afternoon or early evening, there is no such option available. As a result the CAI labs go unused for a large part of the day.

The problem of scheduling, however, relates to another barrier to expanding the program -- staffing. The current complement of staff seems to be sufficient for the program as it currently operates. However, there is little room for error. If a teacher is sick or needs to be out of school, there is no one who can cover the labs. There is an obvious need for more teachers to be trained in the PBDP system and the CAI labs. This will be necessary if the program hopes to expand beyond its current size and schedule constraints. In addition, the program needs an internship coordinator. Currently the lead teacher tries to coordinate the internship program in addition to her other responsibilities. An internship coordinator is needed to develop more partnerships with business to open more internship placements for students. The coordinator is also needed to visit students on their job sites and to meet with employers to review the students' progress and work situation on a regular basis.

Currently, PBDP operates as a school-within-a-school with excellent backing from the school's administration. The support for the program seems to stop at the top. Many teachers in the high school do not like the program and are jealous of it. Almost all the guidance department staff do not like the program and give it a hard time. A large part of this attitude problem stems from a lack of understanding of the program and the feeling that the program and its staff get special treatment. As the school's principal said, *"paradigm shifts for some teachers are slow."* In order to change these attitudes and help teachers shift paradigms, the staff of the entire school need to be given a workshop on the program covering:

- the goals and objectives of the program,
- the comprehensive nature of the curriculum,
- hands-on experience with the CAI,
- understanding of the peer counseling process and the critical role of guidance,
- the linkage between the academic and vocational components.

This workshop and information sharing should expand beyond the faculty and staff of Fort Pierce High School to teachers and administrators in the other high schools in the county and perhaps to middle school personnel as well.

Related to the problem of teacher attitudes are student attitudes. The students in the regular high school do not understand PBDP and want to know why these students get special treatment. In discussions with two honor students, it was clear that they did not understand what PBDP involved, what was required of the students, how learning could take place in a way other that the standard classroom lecture, and how credits could be achieved for work that took less than a semester. In addition, these students were concerned that the PBDP students would be included in the school's class rankings because they felt that PBDP was "not up to standards" and was "less rigorous" than their classes.

Another issue is the school system's reporting requirements. The district's computerized grade and credit reporting system does not fit the needs of PBDP. The system allows for only standard course and credit equivalents to be entered for each student. Because students in PBDP achieve course grade and credits on an ongoing basis, the administrative staff are unable to use the existing system. As the lead teacher described it, *"it's like putting a square peg in a round hole."* As a result student records are often incomplete at the central office despite the efforts of the program staff.

The vocational component of the program is another issue that needs to be addressed. Despite support from the community college and the vocational programs at the high school this is clearly the weak link in PBDP. The high school vocational programs are not performance based. They have found success in a performance-based system and want all their courses to utilize that system. Also, the relationship between the academic instruction and the vocational classes at the college is not clear. The instructors do not seem to fully understand the nature of PBDP and the PBDP teachers do not link their classes to the courses students are taking at the college. This articulation between PBDP and the community college needs to be improved.

Another element of the vocational component that needs refining is the internship program. This is a new element in the larger program, one that needs to be strengthened and expanded. As discussed above, there should be an internship coordinator for the program. This would help in getting more internship positions and in formalizing the internship. Students need to be observed, internship employers trained, and student performance assessed; these are tasks that would fall under the coordinator. The internship program seems to be the one vocational component that best integrates with the rest of the program. If students could be placed in internships that involve an employer/mentor, keep journals for reflection, be assessed through portfolios, and have linkages to their academic courses and teachers, then PBDP would really be a complete program in which academic and vocational components were integrated and balanced.

The final area of concern relates to the expansion of the program or components to a larger student population. It is apparent that many students could benefit from a PBDP or from CAI labs for all or some of their academic courses. The school and the district need to explore options for opening the entire program to students who are not dropout prone but who could benefit from this type of school-within-a-school program. The benefits of offering academic courses by computer and integrating the vocational component into the program would seem to benefit a large number of students who struggle in the more traditional academic or vocational program. Another option is to explore opening the CAI labs to other classes in the school. In other words, the school should explore offering some math, science, English, or social studies courses through the CAI labs as options for some students. It would be important to assess the impact on student learning of this alternative delivery mechanism for all types of students. The power of the CAI labs to capture and motivate the PBDP students seems to warrant its possible use with a wider population of students.

Summary

The leadership of the PBDP point to the fact that replication of the program is possible but requires a number of critical elements, each of which is important, but all of which are necessary. These elements include:

- Administrative leadership
- Instructional leadership
- Comprehensive Computer Assisted Instructional delivery system
- Coherent curriculum delivered via computer
- Peer counseling
- Linking academic and vocational components
- Multiple options for the vocational component
- Parent involvement
- Meaningful mentoring by caring adults outside the workplace.

APPENDIX

Competencies
Math

Basic Skills Math	
Whole Number Operations	
Addition Operations	
Subtraction Operations	
Multiplication Operations	
Division Operations	
Fraction Operations	
Decimal Operations	
Graphs & Tables	
Logic	
Probability	
Polygons & Perimeter	
Length Measure	
Capacity Measure	
Weight Measure	
Area Formulas	

Applied Basic Skills	
Whole Number Operations	
Fraction Operations	
Decimal Operations	
Ratio and Proportion	
Percentage Problems	
Word Problems	

General Math I	
Addition Operations	
Subtraction Operations	
Multiplication Operations	
Division Operations	
Factors and Multiples	
Fraction Operations	
Decimal Operations	
Ratio and Proportion	
Percentages	
Graphs and Tables	
Probability	
Logic	
Area and Volume	
Capacity and Weight	
Angles, Polygons, Circles, & Solids	
Integers	
Absolute Value	
Exponents	
Algebra Expressions	
Scientific Notation	
Square Roots	
Permutations & Combinations	

General Math II	
Whole Number Operations	
Fraction Operations	
Decimal Operations	
Ratio and Proportion	
Percentages	
Measurements	
Graphs and Tables	
Consumer Math	
Points, Lines, and Angles	
Polygons and Circles	
Perimeter and Circumference	
Area and Volume	
Integers	
Absolute Value	
Exponents	
Square Roots	
The Pythagorean Theorem	
Algebra Expressions	
Word Problems	

Consumer Math	
Whole Number Operations	
Fraction Operations	
Decimal Operations	
Ratio and Proportion	
Percentages	
Measuring Length	
Measuring Capacity	
Measuring Weight	
Measuring Area	
Measuring Volume	
Line Graphs	
Bar Graphs	
Pictographs	
Circle Graphs	
Consumer Math	

Pre Algebra	
Points, Lines, and Angles	
Angle Measure	
Polygons and Circles	
Perimeter and Circumference	
Area	
Solids	
Volume	
Integers	
Absolute Value	
Exponents	
Square Roots	
The Pythagorean Theorem	
Algebra Expressions	
One-Step Equations	
One-Step Inequalities	
Two-Step Equations	
Two-Step Inequalities	
Functions	
Graphing	

WISAT 8			
int. graphs		add/sub dec	
measurement		add/sub frac	
money prob.		div whole #'s	
frac/dec/%		mult whole #'s	
solve prob.		sub whole #'s	
est. solution		add whole #'s	
determine info.		equiv. forms	
geom figures		order #'s	
measurement		read/write #'s	
mult/div dec.			

WISAT 11			
int. graphs		add/sub dec	
measurement		add/sub frac	
money problems		divide whole #'s	
frac/dec/%		mult whole #'s	
solve prob.		sub whole #'s	
est. solution		add whole #'s	
determine info.		Equiv. forms	
geometry fig.		order #'s	
measurement		round #'s	
mult/div deci.		read/write #'s	

WICAT SSAT II			
line,circ,graph		WP Sim. inter.	
WP mass/wt		WP Cmpr-Shop	
WP capacity		$=$ clins	
lgth/wid/hght		WP dec/%	
WP perim. area		WP + - frac	
WP elapsed time		WP whole #'s	
WP discount		WP Averages	
WP pur. & tax		Overall test	

GET			
Higher sol		algebra	
Basci sol		Data analysis	
Solution		Neg & Expon	
Higher Set-up		Frac/Dec	
Basic Set-up		#'s Relations	
Set-up		Time, Money	
Slope/distn		Interest & %	
Pythagorean		Rate motion	
Figures		per/area/vol	
Geometry		Quantity	
Functions		Measurement	
Inequalities		Arithmetic	
Equations		Overall Math	

Student Name ____________________

ID# ____________________

Pre Algebra	
Points, Lines, and Angles	
Angle Measure	
Polygons and Circles	
Perimeter and Circumference	
Area	
Solids	
Volume	
Integers	
Absolute Value	
Exponents	
Square Roots	
The Pythagorean Theorem	
Algebra Expressions	
One-Step Equations	
One-Step Inequalities	
Two-Step Equations	
Two-Step Inequalities	
Functions	
Graphing	

Algebra I	
Number Patterns	
Properties	
Whole Numbers & Integers	
Fractions, Ratios, & Rates	
Proportions & Percents	
Rational Numbers & Measure	
Real Numbers as Decimals	
Order of Operations	
Algebraic Expressions	
Relations, Functions, & Graphs	
Slope-Intercept Form	
Other Linear Forms	
Systems of Linear Equations & Inequalities	
Exponents	
Polynomials	
Roots & Radicals	
Solving Quadratic Equations	

Geometry	
Logical Reasoning	
A Proof System	
Points, Lines, & Planes	
Angles	
Proving and Applying Theorems	
Traversable Networks	
Parallels & Perpendiculars	
Reflectional Symmetry	
Triangles & Polygons	
Congruence Fundamentals	
Dissecting Polygons	
Special Quadrilaterals	
Circle Fundamentals	
Area	
Prisms & Cylinders	
Pyramids, Cones, & Spheres	
Transformations	
Right Triange Trigonometry	
Sine Function Extensions	
Coordinates & Trigonometry	
Locus	
Constructions	
Finite Geometries	
Relations & Digraphs	
Quality & Projective Geometry	

Algebra II	
Linear Functions and Matrices	
Quadratic Relations	
Polynomial and Rational Functions	
Functions and Transformations	
Trigonometry	
Exponents and Logarithms	
Vectors and Complex Numbers	
Matrix Algebra	
Sequences and Series	

Science Competencies

Student Name ____________________

ID # ____________________

GET TEST			
EVALUATION		EARTH SCIENCE	
ANALYSIS		PHYSICAL SCIENCE	
APPLICATION		POPULATION	
COMPREHENSION		DIVERSITY	
CHEMISTRY		BIOLOGY	
PHYSICS		LIFE SCIENCE	
		OVERALL	

EARTH/SPACE SCIENCE	
Scientific method	
Theories of origins	
"Young"/"old" mountains	
U.S. in space	
Earth/Moon relationship	
Rocks and minerals	
Earthquakes, volcanoes, crustal movements	
"Old"/"Young" rivers	
Agents of erosion	
Glacial types	
Water cycle	
Weather/seasons	
Geological time frame	
Fossil types	
Energy sources	
Map reading	
Earth sciences/technology	

WICAT LESSONS					
SSO411		SSA425		SSO441	
CCR412		SSA426		CAC442	
SSA413		CAC427		CAC443	
CAC414		CLI428		SSA444	
SSA415		VCM429		SSA445	
CLI416		Earth Sp. Tst. 2		SSA447	
VCM417		SSO431		CAC448	
Earth Sp. Tst. 1		SSA433		CCR449	
SSO421		CRR434		VCM4410	
CAC422		CAC435		Earth Sp. Tst. 4	
SSA423		VCM436			
CAC424		Earth Sp. Tst. 3			

BIOLOGY	
Scientific method	
Cell parts	
Mitosis/meiosis	
Genetic concepts	
Nature of biosphere	
Common plants and animals	
Microorganisms	
Structure/function of plants	
Structure/function of animals	
Role of major human functions	
Ecosystems	
Biology/technology	

WICAT LESSONS							
SSO511		CAC313		CAC328		SSA3313	
CAC512		CAC314		CCR329		VCM3314	
CAC513		SSA315		SSA3210		Bio 3 Test	
SSA514		CAC316		CCR3211		SSO341	
SSA515		SSA317		SSA3212		CLI342	
SSA516		CLI318		VCM3213		CAC343	
SSA517		SSA319		Bio 2 Test		SSA344	
VCM518		SSA3110		SSO331		SSA345	
SSO521		CCR3111		CAC332		SSA346	
CCR522		SSA3112		SAA333		CAC347	
SSA523		VCM3113		CAC334		CAC348	
VCM524		Bio 1 Test		CLI335		CCR349	
SSO531		SSO321		CCR336		SSA3410	
SSA532		CAC322		CLI337		SSA3411	
SSA533		SSA323		SSA338		CLI3412	
VCM534		SSA324		CAC339		SSA3413	
BSC Test		SSA325		SSA3310		VCM3414	
SSO311		CAC326		CCR3311		Bio 4 Test	
CLI312		CLI327		SSA3312		Plants	
						Animals	

Written

PHYSICAL SCIENCE	
Scientific method	
Laws of motion	
Force, work power	
Electricity/magnetism	
Electrical circuits	
Waves	
Light and sound	
Periodic table	
Matter-changes	
Chemical formulas	
Heterogeneous/Homogeneous materials	
Matter-states	
Acids and bases	
Energy forms	
Physical sciences/technology	

WICAT LESSONS							
SSO111		CAG133		CCR215		GAC238	
SSA112		CCR134		CAC216		SSA239	
CLI113		SSA135		SSA217		VCM2310	
CAG114		CAG136		VCM218		Chem 3 Tst.	
SSA115		CAG137		Chem 1 Tst.		SSO241	
CAG116		VCM138		SSO221		SSA242	
CAG117		Phy 3 Tst.		SSA222		CAG243	
CCR118		SSO141		CLI223		CLI244	
SSA119		SSA142		CAG224		SSA245	
VCM1110		SSA143		CCR225		SSA246	
Phy 1 Tst.		CAG144		CAG226		CCR247	
SSO121		SSA145		SSA227		CAG248	
SSA122		146		VCM228		VCM249	
CAG123		CCR147		Chem 2 Tst.		Chem 4 Tst.	
CLI124		CAG148		SSO231		Electricity 8	
CAC126		VCM149		CLI232		Nuclear Enemy 13	
CCR127		Phy 4 Tst.		SSA233		Chem. of Matter 15	
VCM128		SSO211		CAG234		Chem & Atom 18	
Phy 2 Tst.		SSA212		SSA235		Acids, Bases, Salts 21	
SSO131		CAG213		CAG236			
SSA132		CLI214		CCR237			

Written

Competencies

Social Studies

Economics	
Problems/questions	
nature/types of systems	
Supply/demand/resources	
Govt. Policies/economics conditions	
Economic Stability/growth	
Measurement concepts	
nature/activities of competing systems	
Vocabulary, geographical, thinking skills	

World History	
Relations past/present	
Geography in world cultures	
Major individuals, events characteristics	
Interpretations	
Characteristics/development of world cultures	
Major belief systems	
Cause/effect of change	
Scientific/technology impacts	
Communism: history, doctrines, objectives, techniques	
Vocabulary, geographical, thinking, study skills	

WICAT Lessons

SSO311		VCM337		CAG362		SSA383		SSO3101	
SSA312		SSO341		SSA363		SSA384		SSA3102	
SSA313		CAG342		SSA364		SSA385		SSA3103	
VCM314		CLI343		VCM365		SSA386		SSA3104	
SSO321		SSA344		SSO371		SSA387		CCR3105	
SSA322		VCM345		SSA372		VCM388		VCM3106	
VCM323		SSO351		SSA373		SSO391			
SSO331		CCR352		SSA374		CCR392			
SSA332		SSA353		SSA375		SSA393			
CAG333		SSA354		SSA376		CCR394			
CAG334		CAG355		VCM377		SSA395			
SSA335		VCM356		SSO381		CLI396			
CCR336		SSO361		SSA382		VCM397			

WICAT Lessons

SSO411		SSA423		VCM435		Chap. 24	
CAG412		CAG424		Written		Chap. 25	
CAG413		SSA425		Chap. 3		Chap. 30	
SSA414		SSA426		Chap. 4		Chap. 31	
SSA415		CAG427		Chap. 5		Chap. 32	
SSA416		VCM428		Chap. 7		Chap. 33	
SSA417		SSO431		Chap. 10		Chap. 34	
VCM418		SSA432		Chap. 14			
SSO421		SSA433		Chap. 22			
SSA422		SSA434		Chap. 23			

Get Test

EVALUATION		GEOGRAPHY	
ANALYSIS		POLITICAL SCIENCE	
APPLICATION		ECONOMICS	
BEHAVIORAL		US HISTORY	
		OVERALL	

Student Name ______________________________

ID# __________ 539 __________

American History	
Relationships between past and present	
Geography in development of American society	
Major individuals, events characteristics of periods	
Interpretations	
Characteristics/development of culture	
Political, economic, social traditions	
Scientific and technological impacts	
Uniqueness of people	
Vocabulary, geographical, thinking skills	

WICAT Lessons					
SSO111		SSO141		SSA165	
SSA112		SSA142		SSA166	
SSA113		SSA143		VCM167	
SSA114		SSA144		SSA168	
CAG115		SSA145		CAG169	
SSA116		SSA146		SSA1610	
VCM117		SSA147		SSA1611	
SSO121		SSA148		VCM1612	
SSA122		VCM149		SSO171	
CAG123		SSO151		CCR172	
SSA124		SSA152		SSA173	
SSA125		SSA153		CCR174	
VCM126		SSA154		SSA175	
SSO131		VCM155		VCM176	
SSA132		SSO161			
CLI133		SSA162			
SSA134		SSA163			
SSA135		SSA164			

American Government	
Structure and function	
Constitutional principles of organization	
Passing of power in all levels	
Interest and individual groups	
Majority rule/individual rights	
Domestic/foreign problems	
Political traditions	
Individual participation	
Vocabulary, geographical thinking, study skills	

WICAT Lessons					
SSO211		SSA244		SSA273	
SSA212		CLI245		SSA274	
CAG213		SSA246		VCM275	
SSA214		SSA247		SSO281	
VCM215		VCM248		SSA282	
SSO221		SSO251		SSA283	
CAG222		SSA252		SSA284	
SSA223		SSA253		VCM285	
VCM224		SSA254		SSO291	
SSO231		SSA255		CAG292	
SSA232		VCM256		CCR293	
CAG233		SSO261		SSA294	
CAG234		SSA262		SSA295	
SSA235		SSA263		VCM296	
CAG236		SSA264		SSO2101	
VCM237		SSA265		SSA2102	
SSO241		VCM266		SSA2103	
SSA242		SSO271		CCR2104	
CAG243		SSA272		VCM2105	

English Competencies

English Skills I	Date	Gr.	Cr.
Use comprehension skills			
Use selected vocabulary			
Know conventions of written English			
Write for a variety of purposes			
Identify characteristics of genres			
Participate in oral language Activities			
Apply study skills			
RDG Act.			
WTG Act.			
Activity Report			

WISAT 8 Writing		WISAT 8 Reading	
capitalization		obtain inf.	
punctuation		evaluation	
spelling		inf. comp.	
forms		lit. comp.	
letters		word mng.	
supply info.		vocabulary	
explain ideas		writing	
org. info.			
sentence comp.			
PRE		PRE	
POST		POST	

English Skills III	Date	Gr.	Cr.
Use critical reading skills			
Use selected vocabulary			
Apply grammar, spelling, usage mechanics to writing			
Use writing process			
Apply literary elements			
Make oral presentations			
Use reference skills			
RL3 Act.			
Other			
Activity Report			

WICAT SSAT II Communications			
checks		diagrams	
forms		pictures	
letters		fact/opinion	
messages		conclusion	
sources		imp. idea	
indexes		directions	
		cause/effect	
writing		questions	
speech		main idea	
PRE			
POST			

English Skills II	Date	Gr.	Cr.
Use literal, inferential comprehension skills			
Use selected vocabulary			
Know conventions of written English			
Write for a variety of purposes			
Know elements of literary genres in world lit			
Make oral presentations			
Apply study skills			
RDG Act.			
WTG Act.			
Activity Report			

WISAT 11 Writing		WISAT 11 Reading	
capitalization		obtain inf.	
punctuation		evaluation	
spelling		inf. comp.	
forms		lit. comp.	
letters		word mng.	
supply info.		vocabulary	
explain ideas		speech	
org. info.		writing	
sentence comp.			
PRE		PRE	
POST		POST	

English Skills IV	Date	Gr.	Cr.
Use selected vocabulary			
Apply grammar, spelling, usage mechanics to writing			
Write for various purposes			
Use reference skills for documented paper			
Apply literary elements			
Use speaking skills			
Analyze media presentations			
Recognize aspects of development of language			

GET Writing Test		GET Literature Test	
Construct. Sft.		analysis	
Sentence Rev.		application	
Sentence Corr.		inf. comp.	
Spelling		lit. comp.	
Punctuation		comprehen.	
Capitalization		commentary	
Mechanics			
Pronoun Ref.		cl. poetry	
Verb Tense		cl. non-fict.	
Subject/Verb			
Usage		cl. lit.	
Clarity		pop drama	
Clauses		pop poetry	
Frag Run-on		pop nonfict.	
Sentence Str.		pop fiction	
Overall Wtg.		pop lit	
		overall lit.	
PRE		PRE	
POST		POST	
Essay		Bk. Reports	
LA3#		RL3#	
WTG Act.		Rdg. Act.	

	Date	Gr.
Remediation		
RDG I		
RDG II / RL2		
WTG II		
LA 2		
STC		
Spelling		
Composition		
PRE		
POST		

Speech I	Date	Gr.	Cr.
Written Act.			
Speaking Act.			
Other			

Student Name ______________________

ID # ______________________

Class Period 1 2 3 4 5 6 7

English Skills I Menu

☐ RL3 News 1 - News 11 - 19 130 act.
☐ STC Level 3-4 Lessons 1-35 65 act.
☐ Spelling Level 3-4
☐ Supplements Organize info - 9 Messages - 7
Supply info - 21 Forms - 15
☐ Reading - 2 books
☐ Writing - 2 book reports
☐ WR2 Level 3-4 Inf - 12 Creat. - 62 Cap - 15
☐ Speech (See below)

English Skills II Menu

☐ RL3 News 2 - News 21-29 106 act.
☐ STC Level 5-6 - Lessons 1-64 95 act.
☐ Spelling Level 5-6
☐ Supplements Organize info - 9 Messages - 7
Supply info - 21 Forms - 15
☐ Reading - 2 books
☐ Writing - 2 book reports
☐ WR2 Level 5-6 Inform - 18 Creat - 49 Cap - 15
☐ Speech (See below)

Remediation Menu

☐ Reading Ability Profile
☐ Diagnostic Testing: Rdg & Wtg Levels 3 & 5
☐ English as a Second Lang & Writing I (Engl. non-readers)
☐ Rdg I Placement tests for Level K, 1, 2, 3
☐ RL2 News 1 - 5 News 11 - 58 or RD2 Level 1 - 5
☐ Wtg II Creative Writing
Level 3-4 Story Compl. - 15 MAK-A-THG - 12 PIC - 10
Level 5-6 Story Compl. - 15 MAK-A-THG - 10 PIC Com - 9
☐ Spelling - Levels 2 - 3
☐ LA2 Level 3-4 Lessons 1-29 91 act.
Level 5-6 Lessons 1-19 77 act.

English Skills III Menu

☐ RL3 News 3 - News 31-37 67 act.
News 4 - News 41-49(VWM) 32 act.
☐ LA3 Lessons 1-2-3-4 L-5 36 act.
Lessons 6L-7L-8L-9L-10L 44 act.
Lessons 11-12-16-17-27 41 act.
Tests 1-27 15 act.
☐ Supplements Indexes 15 Requests - 15
Sources - 15 Forms - 15
Messages - 15 Checks - 15 } 90 act.
☐ Reading - 2 books
☐ Writing - 2 book reports paragraphs
☐ Speech - (see below)

English Skills IV Menu

☐ RL3 News 4 - News 41-49 72 act.
News 51-53 36 act.
☐ LA3 Lessons 1-2-3-4H-5 36 act.
Lessons 6H-7H-8H-9H-10H 44 act.
Lessons 11-12-16-17-27 41 act.
Tests 1-27 15 act.
☐ Reading - 2 books - Videos
☐ Writing - 2 book reports
Essays
Scope activities
☐ Speech - (see below)

Speech I Menu

☐ Toastmasters' Program
☐ Public Speaking Kit Activities
☐ Scope Activities
☐ Poetry Presentations
☐ 30 Second Activities
☐ One Minute Activities
☐ Audition Activities

Lesson Code/Title
    Activity Code/Title

UNIT: GEOGRAPHY (1.0 credit course)

GEOG01 - Concepts of Geography

SSO411 - Concepts of Geography
Basic principles of geography; how geographers think and work

CAG412 - World Population Changes
Significant increases in world population over the past 300 years

CAG413 - Latitude and Longitude
Using latitude and longitude lines to pinpoint places on a map

SSA414 - The Importance of Climate
The effects of temperature and rainfall on population patterns

SSA415 - Natural Resources
The future of natural resources

SSA416 - The Conservation Movement
History and goals of the conservation movement in America

SSA417 - Regions of the Earth
Population, climate, and economies of different regions

VCM418 - Concepts of Geography
Vocabulary review

GEOG02 - Major Cultural Regions

SSO421 - Major Cultural Regions
The effects of population on the environment and the economy

SSA422 - Patterns of World Tourism
Climate and tourism

SSA423 - The Effects of Topography
How surface features affect the way of life in a region

CAG424 - Coal Power
The amount of coal produced by the countries of the world

SSA425 - Technology and Development
How technology changes our world

SSA426 - The Influence of Television
Television's increasing importance worldwide

CAG427 - Infant Mortality
Connections between high infant mortality rates and poverty

VCM428 - Major Cultural Regions
Vocabulary review

GEOG03 - Using the World's Resources

SSO431 - Using the World's Resources
How global interdependency affects resources and manufacturing

SSA432 - Japan's Economic Power
How cultural values aided Japan's industrial development

SSA433 - Death from the Skies
The effects of acid rain on the world environment

SSA434 - Resources and the Economy
Economic development in Latin America

VCM435 - Using the World's Resources
Vocabulary review

Plus GEO-Safari (mapping skills)